Table 5-1
Water Supply Well—Interviews and Findings

Agency/Company	Contact	Status
City of Stockton 209-937-7037	Doug Jones 209-937-8782	The water for the City of Stockton is supplied by three sources: 1) City of Stockton - Their wells are over 3 miles away from the McCormick and Baxter Superfund site. 2) California Water Service - Supplies the majority of the drinking water for the City of Stockton. - The majority of their wells are over 2 miles away from the McCormick and Baxter Superfund site (see below). 3) San Joaquin County - Supplies less than 1 percent of Stockton's water. - Their wells are over 3 miles away from the McCormick and Baxter Superfund site.
California Water Service 209-466-8971	Eric Marr 209-464-8311	One supply well in proximity to site; all other wells greater than 2 miles away. The supply well has been inactive for 25 years (it has no pump on it), due to the high salinity of the groundwater. Water levels were measured until 1990.
Department of Water Resources (DWR)	Bob Niblack, Engineering Geologist 916-227-7601	They have well log information but an appointment must be made to research the information (Brian, 255-3076). Bob worked on the McCormick and Baxter site 10 years ago and suggested reviewing the Regional Water Quality Control Board's files for supply well data instead of DWR. Bob also suggested contacting San Joaquin County Flood Control and Water Conservation, located in Stockton.
San Joaquin County Flood Control and Water Conservation	209-468-3000	They claimed no active pumping wells are in the area and referred us to DWR.
Regional Water Quality Control Board (RWQCB)	Pat Leary 916-255-3023	On February 10, 1999, a USACE person went through the RWQCB McCormick and Baxter files. No updated information was found; calls were made from an outdated list of companies that once had wells in the surrounding area. The information gathered from these calls is located in this table.
U.S. Naval Reservation	Jim Pinasco 916-255-3719	No response to phone call.
Newark-Sierra (formerly Gold Bond Wood Products)	Mark Vincent 209-466-5251	Newark-Sierra has four supply wells 0.3 mile from the site but only two wells pump at any one time. The other two wells are used as backup wells. Combined the two wells pump 500,000 gallons of water per day. The wells are deeper than 200 feet and could potentially be pumping from the E zone. The wells have been chemically tested and no contamination has ever been detected in these wells. Up until December 1994, Newark Sierra was pumping 2.3 to 3.0 million gallons of water per day and before that, in the late 1980s Newark was pumping 4.5 million gallons of water per day. Mark Vincent is faxing over

Table 5-1 (Continued)
Water Supply Well—Interviews and Findings

Agency/Company	Contact	Status
Newark-Sierra (Continued)	Mark Vincent 209-466-5251	any well data they have on file including a site map showing the location of the wells. He indicated that there were several other "wet" industries southeast of the McCormick and Baxter site that may have supply wells: H.J. Hines, Valley Tomato, Del Monte, Corn Products, and Campbell Soup. Only two of these "wet industries" appear to be active in the area, Valley Tomato and Del Monte.
Port of Stockton	Jay Jagary 209-946-0246 (ext. 290)	The Port of Stockton has no active supply wells and did not know of any in the area.
Valley Tomato	Tom Halloway 209-982-4586 (ext. 405)	Valley Tomato has two supply wells that pump from July 1 through October 1, during tomato harvest. The wells pump approximately 750,000 gallons per day combined. The wells are located adjacent to the Stockton Metropolitan Airport, which is 2 miles from the site.
Del Monte	John Furr 209-466-9011 (ext. 374)	No response to calls.
City of Stockton Haggin Museum	Todd Ruhstaller 209-462-4116	No response to calls.
Nelson Ready Mix Concrete	Russ Nelson 209-466-2884	The company owns one well, 320 feet deep, with the average pumping rate at 6,000 gallons per day, which can vary depending on business. The well is located 4,500 feet southwest of site on West Charter Way.
Ogden Food Products		No longer in business in the Stockton area.
Union Ice/Storage Co.	Larry Titsworth 209-948-0793	Based on past information from Union Ice, there are 12 shallow monitoring wells on this property, but no extraction wells. Union Ice informed EPA that it has used well water in the past, but discontinued such use in approximately 1986.
Stockton Police Department	Jenny Herder, Public Works Director 209-937-8339	The Police Department owns one well 5,400 feet east of the site. The well has been closed at least 5 years with no pumping taking place.

Source: *Management Plan for NAPL Field Exploration* (USACE 1999a).

Table 5-2
Aquifer Zones and Well Screen Elevations

Aquifer Zone	Elevation of Center of Well Screen (feet NVD88)		
	Minimum	Maximum	Average
A	!48.00	!10.99	!27.04
B	!87.50	!57.64	!68.94
C	!135.00	!108.35	!120.64
D	!190.00	!144.35	!169.50
E	!250.00	!226.97	!241.50

Table 5-3
Physical Characteristics of NAPL (1999)

Well ID	Density (g/mL)[1]	Density (g/mL)[2]	Dynamic Viscosity (cP)[3]	Dynamic Viscosity (cP)[4]
A-10	1.004	0.9569	11.36	3.5
ONS-1B	1.05	1.00	6.86	2.6
DSW-6B	0.9975	0.9467	6.3333	3.2

[1]Density at 20°C
[2]Density at 90°C
[3]Viscosity at 40°C at 60 rpm
[4]Viscosity at 90ºC determined by ASTM Standard Method D445

Note:
cP - centipoise

Table 5-4
Physical Characteristics of NAPL (1998)

Well ID	Density (g/ml)	Kinematic Viscosity[1] (cst)	Dynamic Viscosity (cP)
A-10	1.0120	11.5685	11.7073
DSW-6B	1.0055	6.6914	6.7282

[1]Viscosity at 37.8°C determined by ASTM Standard Method D445

Notes:
cP - centipoise
cst - centistoke

Table 5-5
Laboratory Data Summary for Samples of Representative Product Types

	Product Type	A	B	C	D	E
	Sample ID	SS043-13-15	SS047-12-14	SS096-63-65	SS064-34-36	SS028-9.0-10.1
	Date Sampled	8/9/99	9/7/99	9/9/99	9/6/99	8/8/99
	Field QC					
	Soil Description	Silty/sand	Silt	Sand/silt/clay	Sand	Clay
	NAPL Description	Odor (fuel)	Odor (fuel)	Mobile	Mobile	Nothing
LIF (counts/wavelength)						
Ex situ	Maximum intensity	1,801	399	2,056	1,000	102
	Peak wavelength	454	442	468	452	444
In situ	Maximum intensity	5,669	512.56	3,105.9	1,749	1,929
	Peak wavelength	455	448	471.07	468.98	418.9
SVOC (mg/kg)						
2-Methylnaphthalene		20 U	20 U	2,400 J	210	20 U
Acenaphthene		20 U	20 U	1,100 J	130	20 U
Acenaphthylene		20 U	20 U	20 U	20 U	20 U
Anthracene		20 U	20 U	280	50	20 U
Benzo(a)anthracene		20 U	20 U	60	10 J	20 U
Benzo(a)pyrene		20 U	20 U	20	20 U	20 U
Benzo(b)fluoranthene		20 U	20 U	20	20 U	20 U
Benzo(g,h,i)perylene		20 U	20 U	20 U	20 U	20 U
Benzo(k)fluoranthene		20 U	20 U	10 J	20 U	20 U
Carbazole		20 U	20 UJ	120	20 UJ	20 U
Chrysene		20 U	20 U	60	10 J	20 U
Dibenz(a,h)anthracene		20 U	20 U	20 U	20 U	20 U
Dibenzofuran		20 U	20 U	600 J	80	20 U
Fluoranthene		20 U	20 U	500 J	70	20 U
Fluorene		20 U	20 U	700 J	90	20 U
Indeno(1,2,3-cd)pyrene		20 U	20 U	20 U	20 U	20 U
Naphthalene		20 U	20 U	4,500 J	290	20 U
Pentachlorophenol		60 U	140	60 UJ	60 U	60 U
Phenanthrene		20 U	20	1,400 J	180	20 U
Pyrene		20 U	20 U	260	60	20 U
TPH (mg/kg wet weight)						
TRPH		614	4,088	7,311	1,111	34
TPH-Dx		900	7,700 J	14,000 J	3,700	250
C_{10}-C_{11}		23	280 J	3,500 J	980	5
C_{12}-C_{13}		200	1,200 J	2,900 J	830	10
C_{14}-C_{15}		450	1,700 J	2,700 J	770	30
C_{16}-C_{17}		130	1,600 J	1,800 J	480	180
C_{18}-C_{19}		30	1,400 J	1,300 J	320	10
C_{20}-C_{21}		12	770 J	700 J	190	9
C_{22}-C_{23}		6	460 J	400 J	94	5
C_{24}-C_{25}			220 J	100 J	44	
C_{27}-C_{28}				87 J	22	
C_{29}-C_{30}				34 J	9	
C_{31}-C_{32}						
C_{33}-C_{34}						
C_{35}-C_{36}						
C_{37}-C_{39}						

Notes:
J - estimated value
U - not detected at or above associated value

Table 5-6
Characteristics of Product Types A through E

Product Type	Characteristics
A	Distinct double-humped TPH-Dx chromatographic pattern PCP not detected PAH not detected
B	Distinct TPH-Dx pattern from C_{11} to C_{26} PCP detected Low concentrations of PAH relative to TPH-Dx cPAH not detected
C	Distinct TPH-Dx pattern showing individual PAH peaks but without one compound near C_{10} that appears in type D Closely resembles creosote standard PCP not detected PAH detected cPAH may or may not be detected
D	Distinct TPH-Dx pattern showing individual PAH peaks including the one compound near C_{10} not in product type C Closely resembles creosote standard PCP may or may not be detected PAH detected cPAH may or may not be detected
E	Distinct TPH-Dx pattern between C_{16} and C_{18} PCP not detected PAH may or may not be detected Naphthalene not detected cPAH not detected
PCP	Represented by product sample collected from surface soil at location EP-01

Table 5-7
Product Type Assignments and Supporting Chemistry Results

Location ID	Sample ID	Field QC	Product Type[2]	Chemical Concentration (mg/kg[1])				
				Naphthalene	PCP	TPH-Dx	Total PAH (U=0)	Total cPAH
EP01	EP01-0-0.1		PCP		1,000,000	22,000		
SE-002	SS002-14.3-15.1		**D**	1,400	180	2,200	2,510	80
SE-002	SS002-15.1-16.0		**D**	280		1,000	600	
SE-002	SS002-24.5-25.6		**D**	1,400	30	2,300	2,750	40
SE-002	SS002-25.6-26.5		**D**	2,800	70	7,900	4,530	80
SE-002	SS002-84-86		NE					
SE-002	SS502-84-86	Field duplicate	NE					
SB-004	SB004-101.7-102		C or D	80		320	209.1	
SE-005	SS005-29.5-30.5		**D**	1,200	200	12,000 J	5,050	380
SE-005	SS005-30.5-31.6		**D**	1,200	50	4,000	3,800	220
SE-005	SS005-43-45		NE					
SE-005	SS005-67-69		**D**	150		1,200	560	20
SE-005	SS005-86-87.5		NE					
SB-006	SB006-118.7-119		NE	30			60	
SB-006	SB006-162-162.3		C or D	3,000		6,900	7,860	420
SB-006	SB006-212.5-212.8		C or D	30		700	230	
SE-008	SS008-10.5-11.7		NE	10 J	40 J		10	
SE-008	SS508-10.5-11.7	Field duplicate	NE	10 J	30 J		10	
SE-008	SS008-19-21		NE					
SE-008	SS008-40-41.5		NE			120 J		
SE-008	SS008-42-44		**D**	600		5,300 J	1,750	30
SE-008	SS008-45-45.9		NE	10 J			10	
SE-008	SS008-48-50		**D**	300		3,800 J	890	
SE-009	SS009-21-23		NE					
SE-009	SS009-55-57		NE					
SE-009	SS009-69-70		NE					
SE-010	SS010-59-59.8		NE					
SE-010	SS010-61-61.5		**C**	250		1,500	1,110	80
SE-010	SS010-61.5-63		**C**	380		1,200	1,330	90
SB-019	SB019-37.4-37.7		NE			88 J		
SB-019	SB519-37.4-37.7	Field duplicate	NE			120		
SB-019	SB019-53.6-53.9		NE			160		
SB-019	SB019-182.7-183		NE			3.9		
SE-020	SS020-29-31		**D**	500		1,100	1,360	20
SE-020	SS520-29-31	Field duplicate	**D**	300		2,600	820	

Table 5-7 (Continued)
Product Type Assignments and Supporting Chemistry Results

Location ID	Sample ID	Field QC	Product Type[2]	Chemical Concentration (mg/kg[1])				
				Naphthalene	PCP	TPH-Dx	Total PAH (U=0)	Total cPAH
SE-020	SS020-47-49		**D**	700	40 J	4,800	1,520	30
SE-020	SS020-51-51.8		NE			70 J		
SE-020	SS020-56-58		**D**	800	40 J	6,200	2,110	40
SE-020	SS520-56-58	Field duplicate	**D**	1,000	40 J	6,000	2,410	40
SE-020	SS020-60-62		**D**	400		5,500	1,350	40
SB-027	SB027-13.3-13.7		NE		530			
SB-027	SB027-19.7-20.0		NE		230			
SB-027	SB027-24.0-24.4		NE		200			
SB-027	SB027-63.6-64.0		C or D	40		830	330	20
SB-027	SB027-69.0-69.3		C or D	130		1,300	640	10
SB-027	SB027-73.4-73.9		C or D	210		670	870	50
SB-027	SB027-96.3-96.9		NE			60 J		
SB-027	SB027-113.3-113.7		C or D	20		380	210	10
SB-027	SB027-115.9-116.3		C or D	840		5,100	3,280	210
SB-027	SB027-122.8-123.1		C or D	2,700		15,000	10,010	560
SB-028	SB028-8.0-8.4		D	110	140	880	1,140	70
SB-028	SB028-9.0-10.1		**E**			250		
SB-028	SB028-10.1-11		**E**			440	140	
SB-028	SB028-12-12.5		NE			250	260	
SB-028	SB028-28.3-29.4		C or D	620 J		2,600	1,930	180
SB-028	SB028-31-33		C or D	450		1,300	1,080	40
SB-028	SB028-48-49.7		C or D	20 J		630	130	
SB-028	SB528-48-49.7	Field duplicate	C or D	20		NA	160	
SB-028	SB028-53.5-55		C or D	1,200		6,000	3,630	260
SB-028	SB528-53.5-55	Field duplicate	C or D	1,900		6,500	5,790	400
SB-028	SB028-55-56		C or D	190		490	740	40
SB-028	SB028-79.5-79.8		C or D	20		140	50	
SB-028	SB028-100.6-101.5		C or D	20		830	220	
SB-028	SB028-113-113.2		NE			100	120	
SE-035	SS035-50-52		NE					
SE-037	SS037-31-32.6		NE					
SE-037	SS037-56-57		**D**	3,000		27,000	9,350	650
SE-037	SS037-93-95		NE					
SE-039	SS039-10-12		NE					
SE-039	SS039-19-20.6		**D**	60		940	370	
SE-039	SS039-22-22.4		**D**	40		920	300	
SE-039	SS039-40-42		NE					

Table 5-7 (Continued)
Product Type Assignments and Supporting Chemistry Results

Location ID	Sample ID	Field QC	Product Type[2]	Chemical Concentration (mg/kg[1])				
				Naphthalene	PCP	TPH-Dx	Total PAH (U=0)	Total cPAH
SE-043	SS043-7-8.6		NE					
SE-043	SS043-13-15		**A**			900		
SE-043	SS043-23-25		**A**			400		
SE-043	SS543-23-25	Field duplicate	**A**			500		
SE-043	SS043-27-29		**A**			100		
SB-047	SB047-10-12		**B**			600		
SB-047	SB047-12-14		**B**		140	7,700 J	20	
SB-047	SB047-14-15		**B**		330 J	9,200	70	
SB-051	SB051-52.4-52.9		NE			310	10	
SB-051	SB051-56.0-56.3		C or D	120		720	330	
SB-051	SB051-77.0-77.4		C or D	20		160	20	
SB-051	SB051-80.0-80.3		C or D	20		70 J	20	
SB-051	SB051-124.3-124.6		C or D	30		130	60	
SB-051	SB051-131.8-132.1		NE			120	10	
SB-057	SB057-2.7-3		NE		170	2,200		
SB-057	SB057-28-29.8		C or D	470		2,100	1,150	10
SB-057	SB057-31-32		C or D	430		2,300	1,010	
SB-057	SB057-36-38		BC or BD	3,100	130	30,000	7,210	150
SB-057	SB557-36-38	Field duplicate	BC or BD	5,400	200	15,000	12,360	240
SB-057	SB057-40-50		BC or BD	5,800	200	22,000	12,980	260
SB-057	SB057-51-52		C or D	110		2,000	440	
SB-057	SB557-51-52	Field duplicate	C or D	130		1,500	530	
SB-057	SB057-57.6-57.8		C or D	410		1,600	940	
SB-061	SB061-126.0-126.3		C or D	40		130	100	
SE-064	SS064-31-33		NE					
SE-064	SS064-34-36		**D**	290		3,700	1,100	20
SE-064	SS564-34-36	Field duplicate	**D**	350		3,800	1,080	
SE-064	SS064-50-51		NE					
SE-064	SS064-62-63.3		NE			80 J		
SE-079	SS079-51-52		**C**	460		5,000	2,640	220
SE-079	SS079-54-54.2		**C**	780		4,700	3,490	290
SE-079	SS079-54.2-55		**C**	80		200	480	20
SE-079	SS079-58-60		NE					
SE-079	SS079-80-81		D	90	120	100	540	20
SE-081	SS081-50-50.6		NE					
SB-084	SB084-11.0-11.4		D	100	120	220	370	10

Table 5-7 (Continued)
Product Type Assignments and Supporting Chemistry Results

Location ID	Sample ID	Field QC	Product Type[2]	Chemical Concentration (mg/kg[1])				
				Naphthalene	PCP	TPH-Dx	Total PAH (U=0)	Total cPAH
SB-084	SB084-13.3-13.6		C or D	60			170	
SB-084	SB084-49.3-49.8		C or D	20 J		210	40	
SB-086	SB086-17-17.3		D	700	2,100 J	1,900	1,760	70
SB-086	SB086-21.6-23.3		BD	3,500	30 J	6,600	5,600	140
SB-086	SB086-27-28.5		C or D	1,200		3,000 E	2,750	100
SB-086	SB586-27-28.5	Field duplicate	C or D	900		4,600 E	2,140	70
SB-086	SB086-33.6-35		C or D	600		2,500 E	1,660	40
SB-086	SB086-36.3-38		BC or BD	1,800		11,000	4,320	110
SB-086	SB086-44-45		C or D	380		3,700	1,020	20
SB-086	SB086-49-50		C or D	40		69 J	150	
SE-088	SS088-5.4-5.8		**BD**	11,000	1,200	39,000	29,830	560
SE-088	SS088-9-10.3		C or D	20 J		200	90	
SE-088	SS088-10.3-11		C or D	40		200	230	
SE-088	SS088-14-15.4		NE					
SE-088	SS088-20-21		**C**	420		1,900	1,360	40
SE-088	SS088-24-25.8		**BD**	510 J		1,600	1,680	40
SE-088	SS588-24-25.8	Field duplicate	**BD**	550		3,400	1,800	40
SB-092	SB092-51.5-51.8		C or D	40		480	250	
SB-092	SB092-79.5-79.8		C or D	70		350	460	20
SB-092	SB092-114-114.3		NE			130	60	
SB-092	SB092-139.5-139.8		C or D	190		1,100	870	70
SE-093	SS093-45-46		NE					
SE-093	SS093-63-65		NE					
SE-093	SS093-66-67		NE					
SE-093	SS093-67-68		NE					
SE-096	SS096-63-65		**C**	4,500 J		14,000 J	11,310	170
SE-096	SS096-66-67.6		NE			100		
SE-096	SS096-81-82.4		NE					
SE-096	SS096-84.5-84.8		NE			70 J		
SE-096	SS096-94-96		NE					
SE-097	SS097-87-89		NE					
SE-097	SS097-90-92		NE					
SE-097	SS097-92.6-94		**C**			100	20	
SE-097	SS597-92.6-94	Field duplicate	**C**	20 J		200	50	
SB-099	SB099-3.1-4.6		D	200	100	2,100	1,120	230
SB-099	SB599-3.1-4.6	Field duplicate	D	440	200	6,200	1,530	190

Table 5-7 (Continued)
Product Type Assignments and Supporting Chemistry Results

Location ID	Sample ID	Field QC	Product Type[2]	Chemical Concentration (mg/kg[1])				
				Naphthalene	PCP	TPH-Dx	Total PAH (U=0)	Total cPAH
SB-099	SB099-13.4-14.7		BC or BD	500		6,400	4,870	300
SB-099	SB099-27.5-29.5		BC or BD	2,000		18,000	9,160	480
SB-099	SB599-27.5-29.5	Field duplicate	BC or BD	1,900		22,000	8,820	450
SB-099	SB099-31-33		C or D	320		5,900	1,570	80
SB-099	SB099-41-42.5		BC or BD	1,200		13,000	5,300	300
SB-099	SB099-139.2-139.4		C or D	20		250	150	10
SB-099	SB099-152.6-152.8		C or D	40		70 J	120	
SB-099	SB099-153.8-153.9		C or D	170		410	610	20
SB-099	SB099-160.7-160.9		C or D	380		1,200	1,250	70
SB-099	SB599-160.7-160.9	Field duplicate	C or D	310		2,200	1,270	90
SB-099	SB099-161.8-162		C or D	210		2,100	1,010	50
SB-099	SB099-212.4-212.6		C or D	110		1,500	540	20

[1]Results are reported as dry weight except TPH-Dx which are reported as wet weight.
[2]See Table 5-6

Notes:
Bolddenotes product types assigned from review of TPH-Dx chromatograms
E - result reported was outside of instrument calibration range
J - estimated value
NA - not analyzed
NE - results could not be evaluated due to low concentrations

Table 5-8
Data Used for NAPL Mapping and Volume Estimates

Off-site	Ground Elev.[1] NVD88 (feet)	Top NAPL bgs (feet)	Top NAPL NVD88 (feet)	Base Max NAPL bgs (feet)	Base Max NAPL NVD88 (feet)	Net NAPL (feet)	Comments
A-1		ND	ND	Sh	Sh	NU	
A-2		ND	ND	Sh	Sh	NU	
A-3		ND	ND	Sh	Sh	NU	
A-4		ND	ND	Sh	Sh	NU	
A-5		ND	ND	Sh	Sh	NU	
A-6		ND	ND	Sh	Sh	NU	
A-7		ND	ND	Sh	Sh	NU	
A-8	13.5	ND	ND	Sh	Sh	NU	
A-9		ND	ND	Sh	Sh	NU	
A-10		ND	ND	Sh	Sh	NU	
DSW-1B		ND	ND	ND	Sh	NU	Poor sample descriptions
DSW-1C		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-1D		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-2A		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-2B		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-2C		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-2D		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-2E		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-3B		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-3C		ND	ND	ND	ND	NU	Poor sample descriptions
DSW-4B	10.3	65	!54.7	NU	NU	NU	Grnd surface at top of flush mnt top; NAPL assumed top of screen
DSW-4C	10.1	NU	NU	133	!122.9	NU	Grnd surface at top of flush mnt top; NAPL assumed btm of screen
DSW-4D		NU	NU	NU	NU	NU	Geophysical log only
DSW-4E		NU	NU	NU	NU	NU	Geophysical log only
DSW-5B		NU	NU	NU	NU	NU	Geophysical log only
DSW-6B		NU	NU	NU	NU	NU	Geophysical log only
DSW-6C		NU	NU	NU	NU	NU	Geophysical log only
DSW-7A		NU	NU	NU	NU	NU	Geophysical log only
DSW-7B		NU	NU	NU	NU	NU	Geophysical log only
DSW-7C		NU	NU	NU	NU	NU	Geophysical log only
OFS-1A		NU	NU	NU	NU	NU	Off-site location; not used
OFS-1B		NU	NU	NU	NU	NU	Off-site location; not used
OFS-1C		NU	NU	NU	NU	NU	Off-site location; not used
OFS-1D		NU	NU	NU	NU	NU	Off-site location; not used
OFS-2A		NU	NU	NU	NU	NU	Off-site location; not used
OFS-2C	7.7	NU	NU	NU	NU	NU	Off-site location; not used
OFS-2D		NU	NU	NU	NU	NU	Off-site location; not used
OFS-3A		NU	NU	NU	NU	NU	Off-site location; not used
OFS-3B		NU	NU	NU	NU	NU	Off-site location; not used
OFS-3C		NU	NU	NU	NU	NU	Off-site location; not used
OFS-3D		NU	NU	NU	NU	NU	Off-site location; not used
OFS-3E		NU	NU	NU	NU	NU	Off-site location; not used
OFS-4A1		NU	NU	NU	NU	NU	Off-site location; not used
OFS-4A2		NU	NU	NU	NU	NU	Off-site location; not used
OFS-4C	7.8	NU	NU	NU	NU	NU	Off-site location; not used
OFS-4D		NU	NU	NU	NU	NU	Off-site location; not used
OFS-4E		NU	NU	NU	NU	NU	Off-site location; not used
OFS-5A		NU	NU	NU	NU	NU	Off-site location; not used
OFS-5C	12.7	NU	NU	NU	NU	NU	Off-site location; not used
OFS-5E		NU	NU	NU	NU	NU	Off-site location; not used
ONS-1B		NU	NU	NU	NU	NU	Use ONS-1D only
ONS-1C		NU		NU		NU	Use ONS-1D only
ONS-1D	11.1	6	5.1	142	!130.9	19.7	Grnd elev avg of well top elevations for all ONS-1 wells

Table 5-8 (Continued)
Data Used for NAPL Mapping and Volume Estimates

Off-site	Ground Elev.[1] NVD88 (feet)	Top NAPL bgs (feet)	Top NAPL NVD88 (feet)	Base Max NAPL bgs (feet)	Base Max NAPL NVD88 (feet)	Net NAPL (feet)	Comments
ONS-2A		NU	NU	NU	NU	NU	Use ONS-2D only
ONS-2B		NU	NU	NU	NU	NU	Use ONS-2D only
ONS-2C		NU	NU	NU	NU	NU	Use ONS-2D only
ONS-2D	12.9	62	!49.1	63.5	!50.6	1.5	Grnd elev avg of well top elevations for all ONS-2 wells
OS-1A		NU	NU	NU	NU	NU	Off-site location; not used
OS-1B		NU	NU	NU	NU	NU	Off-site location; not used
OS-1C		NU	NU	NU	NU	NU	Off-site location; not used
OS-1E		NU	NU	NU	NU	NU	Off-site location; not used
OS-2E		NU	NU	NU	NU	NU	Off-site location; not used
OS-3E		NU	NU	NU	NU	NU	Off-site location; not used
OS-4A		NU	NU	NU	NU	NU	Off-site location; not used
OS-4B		NU	NU	NU	NU	NU	Off-site location; not used
OS-4C		NU	NU	NU	NU	NU	Off-site location; not used
OS-5B		NU	NU	NU	NU	NU	Off-site location; not used
OS-5C		NU	NU	NU	NU	NU	Off-site location; not used
OS-5D		NU	NU	NU	NU	NU	Off-site location; not used
OS-6B		NU	NU	NU	NU	NU	Off-site location; not used
OS-6C		NU	NU	NU	NU	NU	Off-site location; not used
OS-6D		NU	NU	NU	NU	NU	Off-site location; not used
GB-5		NU	NU	NU	NU	NU	Off-site location; not used
GB-7		NU	NU	NU	NU	NU	Off-site location; not used
GB-9		NU	NU	NU	NU	NU	Off-site location; not used
GB-10		NU	NU	NU	NU	NU	Off-site location; not used
EB-01	8	ND	ND	Sh	Sh	NU	
EB-02	8.5	24.5	!16	Sh	Sh	NU	Not used; shallow compared to surrounding SCAPS data
EB-03	10.6	Sh	Sh	Sh	Sh	NU	
EB-04	11.2	Sh	Sh	Sh	Sh	NU	
EB-05	11.3	Sh	Sh	Sh	Sh	NU	
EB-06	10.8	Sh	Sh	Sh	Sh	NU	
EB-07	12.1	Sh	Sh	Sh	Sh	NU	
EB-08	11.9	8.5	3.4	Sh	Sh	NU	Not used; shallow compared to surrounding SCAPS data
EB-09	12.4	ND	ND	Sh	Sh	NU	
EB-10	11.7	6.5	5.2	Sh	Sh	NU	Not used; shallow compared to surrounding SCAPS data
EB-11	11.6	6.5	5.1	Sh	Sh	NU	Not used; too shallow for full NAPL extent
EB-12	13.8	ND	ND	Sh	Sh	NU	
EB-13	12.3	6.3	6	Sh	Sh	NU	Not used; shallow compared to surrounding SCAPS data
EB-14	12.1	Sh	Sh	Sh	Sh	NU	
EB-15	11.2	Sh	Sh	Sh	Sh	NU	
EB-16	11.4	Sh	Sh	Sh	Sh	NU	
EB-17	9.4	Sh	Sh	Sh	Sh	NU	
EB-18	11.1	Sh	Sh	Sh	Sh	NU	
EB-19	12.3	Sh	Sh	Sh	Sh	NU	
IB-01A	11.3	Sh	Sh	Sh	Sh	NU	
IB-01B	11	0.5	10.5	Sh	Sh	NU	
IB-02A	11.3	37	!25.7	Sh	Sh	NU	
IB-02B	11.2	33	!21.8	Sh	Sh	NU	
IB-03A	10.8	Sh	Sh	Sh	Sh	NU	
IB-04A	11.8	Sh	Sh	Sh	Sh	NU	
IB-05A	13.7	25	!11.3	Sh	Sh	NU	
IB-06A	13.1	Sh	Sh	Sh	Sh	NU	
IB-07A	14.3	Sh	Sh	Sh	Sh	NU	
IB-07B	14.2	6	8.2	Sh	Sh	NU	
IB-07C	14.2	6	8.2	Sh	Sh	NU	
IB-08A	11.8	Sh	Sh	Sh	Sh	NU	
IB-08B	12	Sh	Sh	Sh	Sh	NU	

Table 5-8 (Continued)
Data Used for NAPL Mapping and Volume Estimates

Off-site	Ground Elev.[1] NVD88 (feet)	Top NAPL bgs (feet)	Top NAPL NVD88 (feet)	Base Max NAPL bgs (feet)	Base Max NAPL NVD88 (feet)	Net NAPL (feet)	Comments
IB-09A	11	7	4	Sh	Sh	NU	
IB-09B	10.9	14	!3.1	Sh	Sh	NU	
IB-09C	11.2	4	7.2	Sh	Sh	NU	
IB-10A	11.3	Sh	Sh	Sh	Sh	NU	
IB-11A	9.9	Sh	Sh	Sh	Sh	NU	
IB-12A	10.8	7	3.8	Sh	Sh	NU	
IB-13A	11.8	ND	ND	Sh	Sh	NU	
IB-13B	10.1	ND	ND	Sh	Sh	NU	
SB004	11	102	!92.5	ND	ND	1.5	Slight sheen
SB006	14.2	52	!39.8	163	!148.8	11	Sheen
SB007	10.7	ND	ND	ND	ND	0	
SB018	11.8	ND	ND	ND	ND	0	
SB019	11.4	NU	NU	128.4	!117	8.4	Missing sample intervals
SB025	12	Sh	Sh	87.9	!75.9	13.5	Boring lacks shallow samples; base main NAPL marginal
SB027	15.4	60	!44.6	123	!107.6	35.5	
SB028	14	27.7	!13.7	126	!112	49.7	
SB030	9.3	ND	ND	ND	ND	0	
SB047	8.9	ND	ND	ND	ND	0	
SB051	11.2	50	!38.8	ND	ND	NU	Conflict with SE51; bottom may be base of sand at 87 feet
SB052	9.8	ND	ND	ND	ND	0	
SB057	11.4	25	!13.6	ND	ND	27.2	Top in 20-30 foot interval; assume 25 feet from SE57
SB061	10.7	125	!114.3	133.5	!122.8	5.5	Minor indication, but agrees with SE61
SB084	12.6	10	2.6	ND	ND	8	First sample, top might be slightly higher, no samples 60-110 feet
SB086	12.3	Sh	Sh	Sh	Sh	NU	NAPL at 17 feet, but no sample 10-17 feet
SB092	10.2	50	!39.8	154	!143.8	34.4	No samples above 50 feet
SB099	15	3	12	214.5	!199.5	32.3	Agrees with IB-9C
SE01	11.9	10	1.9	60	!48.1	13	
SE01A	11.9	NU	NU	NU	NU	NU	Spiky peaks; better results in SE01
SE02	12.2	NU	NU	NU	NU	NU	SE02A deeper with better response
SE02A	12.3	23	!10.7	86	!73.7	31	NAPL at 84-86 feet noted in SS02
SE03	10.5	ND	ND	Sh	Sh	NU	
SE03A	10.5	NU	NU	NU	NU	NU	Response and depth similar to SE03
SE04	11	100	!89	104	!93	4	
SE05	14.8	8	6.8	70	!55.2	30	
SE06	14	53	!39	Sh	Sh	12	
SE07	11.1	ND	ND	ND	ND	0	Intervals with sig. counts, but no contamination in SB007
SE08	13.7	24	!10.3	50	!36.3	12	
SE09	11.3	ND	ND	Sh	Sh	0	
SE10	13.4	59	!45.6	Sh	Sh	6	
SE11	14.1	50	!35.9	52	!37.9	2	
SE12	11	ND	ND	Sh	Sh	0	
SE13	11.5	60	!48.5	68	!56.5	8	
SE14	10	ND	ND	Sh	Sh	0	
SE15	10.7	35	!24.3	66	!55.3	3	
SE16	11.2	43	!31.8	Sh	Sh	1	
SE17	11.4	ND	ND	Sh	Sh	0	Minor spike at 15.5 feet; otherwise counts less than 300
SE18	11.9	50	!38.1	63	!51.1	5	Not sampled until 80 feet
SE19	11.6	7	4.6	Sh	Sh	21	Deep staining only
SE20	11.3	29	!17.7	63	!51.7	25	
SE21	12.3	50	!37.7	Sh	Sh	9	
SE22	12.5	ND	ND	Sh	Sh	0	Counts in 300-500 gray area; adjacent locations show no NAPL
SE23	12	28	!16	83	!71	9	
SE24	12.5	6	6.5	73	!60.5	28	Despite relatively low counts, consider as NAPL due to location
SE25	12.1	18	!5.9	83	!70.9	25	

Table 5-8 (Continued)
Data Used for NAPL Mapping and Volume Estimates

Off-site	Ground Elev.[1] NVD88 (feet)	Top NAPL bgs (feet)	Top NAPL NVD88 (feet)	Base Max NAPL bgs (feet)	Base Max NAPL NVD88 (feet)	Net NAPL (feet)	Comments
SE26	11	37	!26	76	!65	13	
SE27	15	35	!20	57	!42	9	
SE28	14.1	6	8.1	Sh	Sh	23	Shallow NAPL in SB028
SE29	9.8	ND	ND	ND	ND	0	
SE30	9.4	Sh	Sh	ND	ND	0	Trace vague staining in SB030 below 80 feet
SE31	9.8	ND	ND	ND	ND	0	
SE32	12.7	44	!31.3	47	!34.3	3	
SE33	13.2	ND	ND	ND	ND	0	
SE34	14.2	ND	ND	ND	ND	0	
SE35	14.3	ND	ND	ND	ND	0	
SE36	10.6	ND	ND	ND	ND	0	
SE37	10.5	56	!45.5	60	!49.5	2	Peak at 32-33 feet not confirmed with soil sample
SE38	9.3	ND	ND	ND	ND	0	
SE39	11.2	10	1.2	ND	ND	8	
SE40	11.6	ND	ND	ND	ND	0	
SE41	12.4	ND	ND	ND	ND	0	
SE42	11.5	ND	ND	ND	ND	0	
SE43	9.8	NU	NU	NU	NU	NU	Probable diesel contamination; not used for NAPL contours
SE44	11.4	ND	ND	Sh	Sh	0	Very minor response at 100 feet
SE45	11.6	ND	ND	Sh	Sh	0	
SE46	10	ND	ND	Sh	Sh	0	
SE47	8.6	NU	NU	NU	NU	NU	Probable diesel contamination; not used for NAPL contours
SE48	12.2	ND	ND	ND	ND	0	
SE49	10	ND	ND	ND	ND	0	
SE50	12.1	4	8.1	61	!48.9	47	
SE51	11.4	50	!38.6	Sh	Sh	12	Base NAPL may extend below depth of boring?
SE52	10.2	Sh	Sh	Sh	Sh	Sh	
SE53	11.8	ND	ND	ND	ND	0	
SE54	10	Sh	Sh	Sh	Sh	Sh	
SE54A	10	Sh	Sh	Sh	Sh	Sh	
SE55	10.5	ND	ND	ND	ND	0	
SE56	11.4	26	!14.6	61	!49.6	15	
SE57	11.5	10	1.5	60	!48.5	39	
SE58	11.5	35	!23.5	88	!76.5	7	
SE59	12.8	ND	ND	ND	ND	0	
SE60	12.3	45	!32.7	66	!53.7	17	
SE61	11	124	!113	125	!114	1	Deep NAPL at 124 feet supported by SB061 and SE44
SE62	14	ND	ND	ND	ND	0	
SE63	14.1	26	!11.9	50	!35.9	16	
SE64	14	30	!16	62	!48	10	
SE65	11.1	ND	ND	ND	ND	0	
SE66	11.5	ND	ND	ND	ND	0	
SE67	12.2	ND	ND	ND	ND	0	1 spike at 25.69 feet; otherwise counts less than 300
SE68	11.5	ND	ND	ND	ND	0	
SE69	10.9	4	6.9	58	!47.1	35	
SE70	11.2	54	!42.8	63	!51.8	9	Possible spike at base
SE71	11	ND	ND	ND	ND	0	
SE72	11.7	ND	ND	Sh	Sh	0	
SE73	10.4	ND	ND	ND	ND	0	
SE74	12.7	23	!10.3	67	!54.3	19.2	
SE75	12.5	ND	ND	ND	ND	0	
SE76	12.4	ND	ND	ND	ND	0	False spike at 61.5 feet
SE77	12.2	25	!12.8	27	!14.8	2	
SE78	12.9	ND	ND	ND	ND	0	

Table 5-8 (Continued)
Data Used for NAPL Mapping and Volume Estimates

Off-site	Ground Elev.[1] NVD88 (feet)	Top NAPL bgs (feet)	Top NAPL NVD88 (feet)	Base Max NAPL bgs (feet)	Base Max NAPL NVD88 (feet)	Net NAPL (feet)	Comments
SE79	10.2	50	!39.8	Sh	Sh	11	
SE80	10.1	ND	ND	ND	ND	0	
SE81	9.6	ND	ND	ND	ND	0	Dubious spike at 50.4-50.5 feet
SE82	8.5	ND	ND	ND	ND	0	
SE83	8.5	ND	ND	ND	ND	0	
SE84	12.5	10	2.5	Sh	Sh	16	
SE85	12.3	ND	ND	ND	ND	0	
SE86	12.4	9	3.4	48	!35.6	33	
SE87	12.1	4	8.1	Sh	Sh	24	
SE88	12.1	4	8.1	Sh	Sh	20	
SE89	12.5	ND	ND	Sh	Sh	NU	
SE89A	12.6	ND	ND	Sh	Sh	NU	
SE89B	12.5	14	!1.5	Sh	Sh	18	
SE90	12.2	22	!9.8	60	!47.8	19	
SE91	11.1	ND	ND	Sh	Sh	0	Minor spike at 13 feet; otherwise counts less than 300
SE92	9.6	50	!40.4	Sh	Sh	8	NAPL at 90 feet, but could extend deeper
SE93	9.7	62	!52.3	70	!60.3	8	
SE94	9.7	8	1.7	17	!7.3	7	
SE95	10.9	ND	ND	Sh	Sh	NU	
SE96	10.6	63	!52.4	97	!86.4	16	
SE97	10.9	87	!76.1	102	!91.1	10	
SE98	9.9	ND	ND	Sh	Sh	0	

[1]Ground surface elevation for monitoring wells is top of flush-mount casing.

Notes:
ND - not detected; no evidence of NAPL in sample descriptions/analysis or LIF response
NU - not used; indications of NAPL questionable, or data do not agree with other available information
Sh - shallow; boring/push not deep enough to delineate NAPL base, or samples not collected over some upper interval

Figure 5-1
Laboratory Hydraulic Conductivity by Soil Type

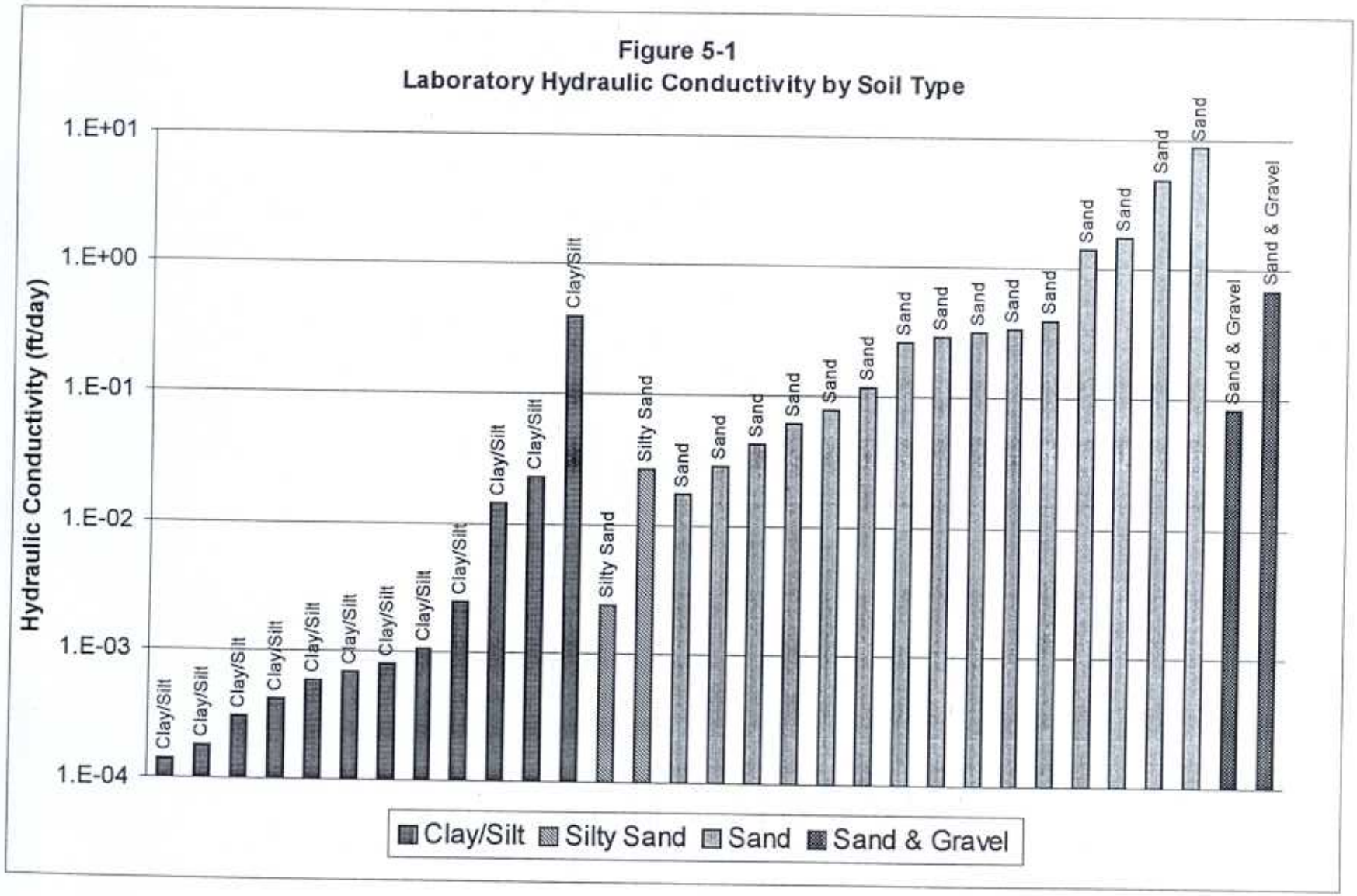


Figure 5-2.
Creosote Density

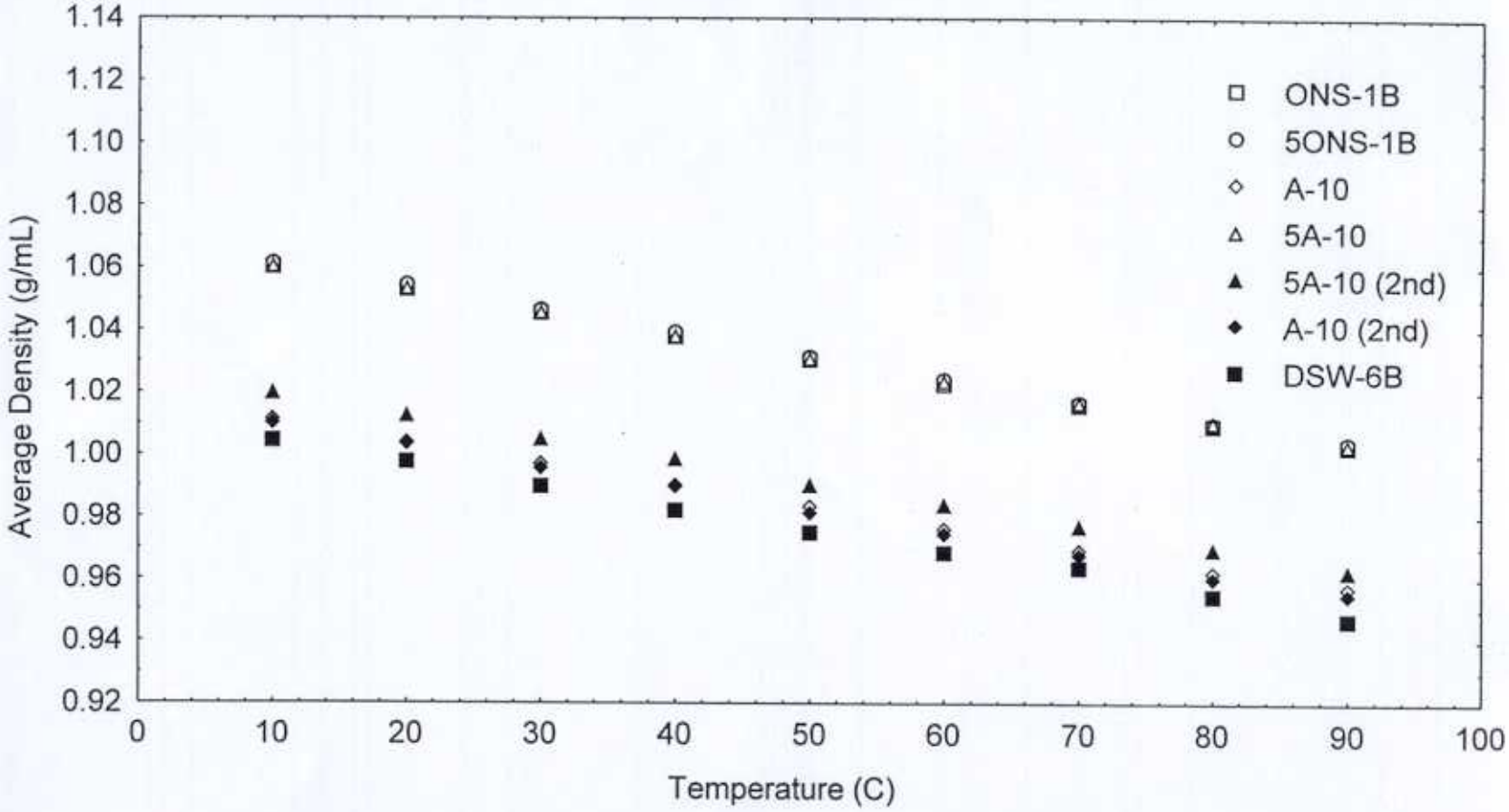


Figure 5-3.
Creosote Viscosity

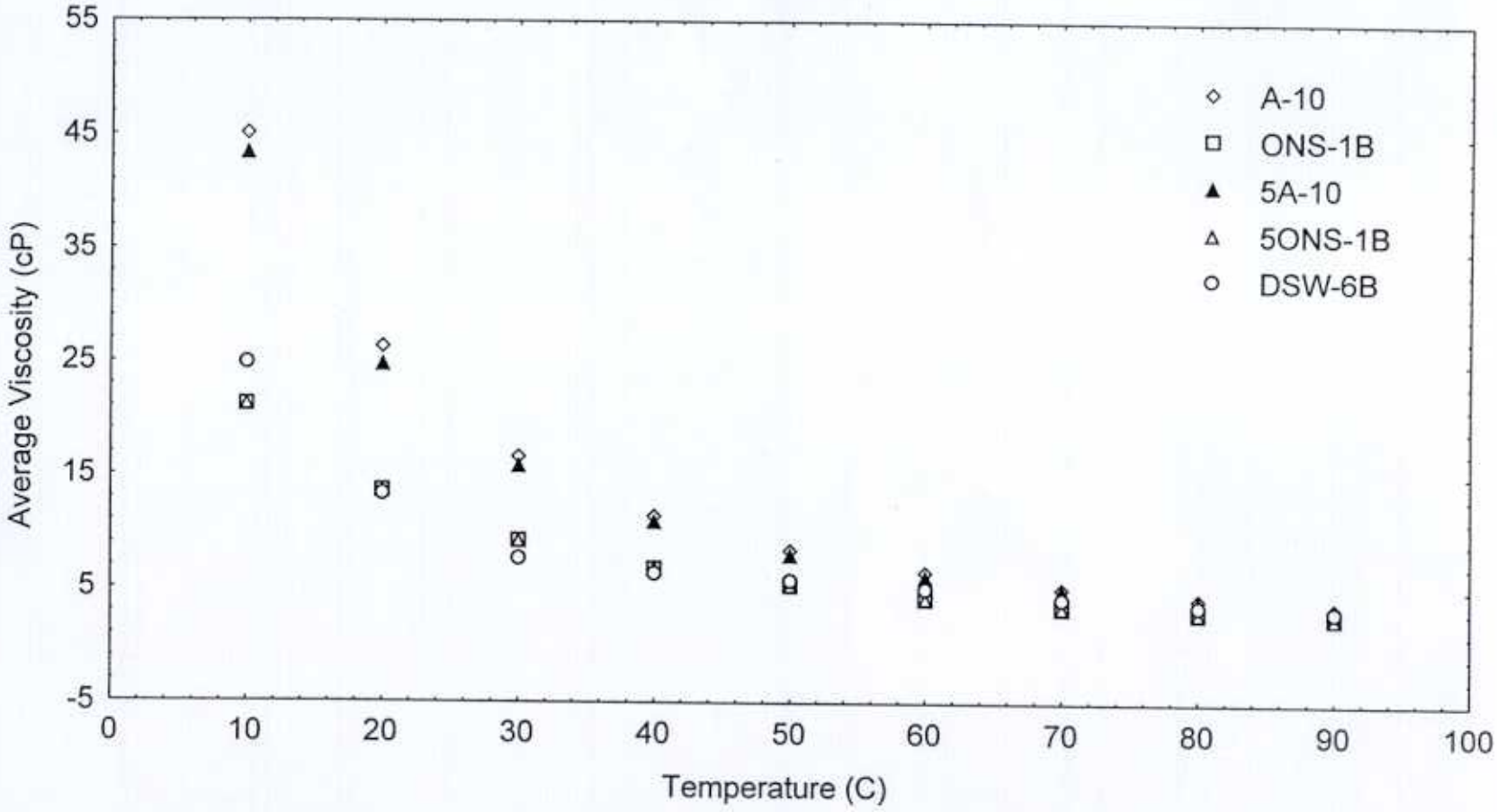
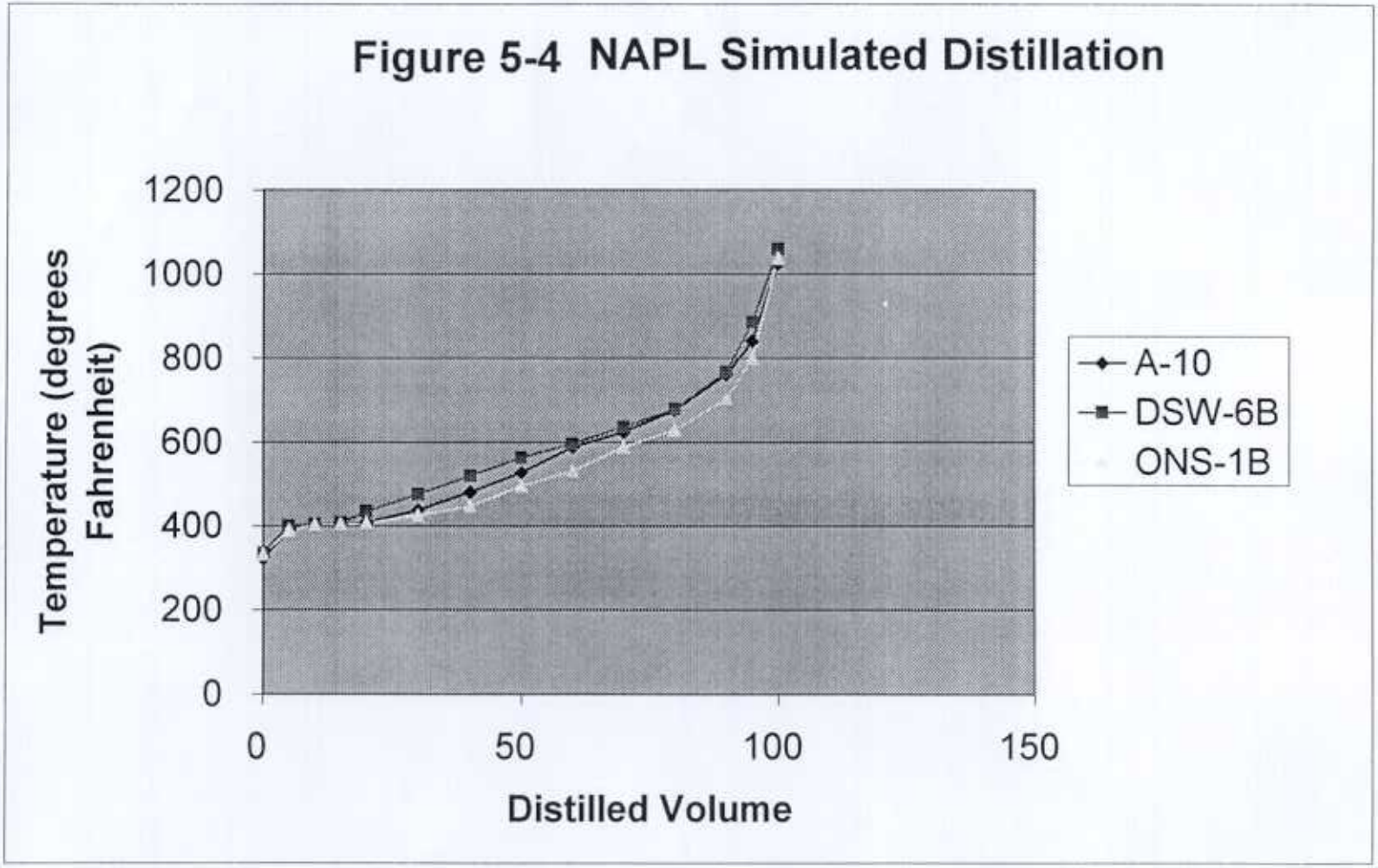
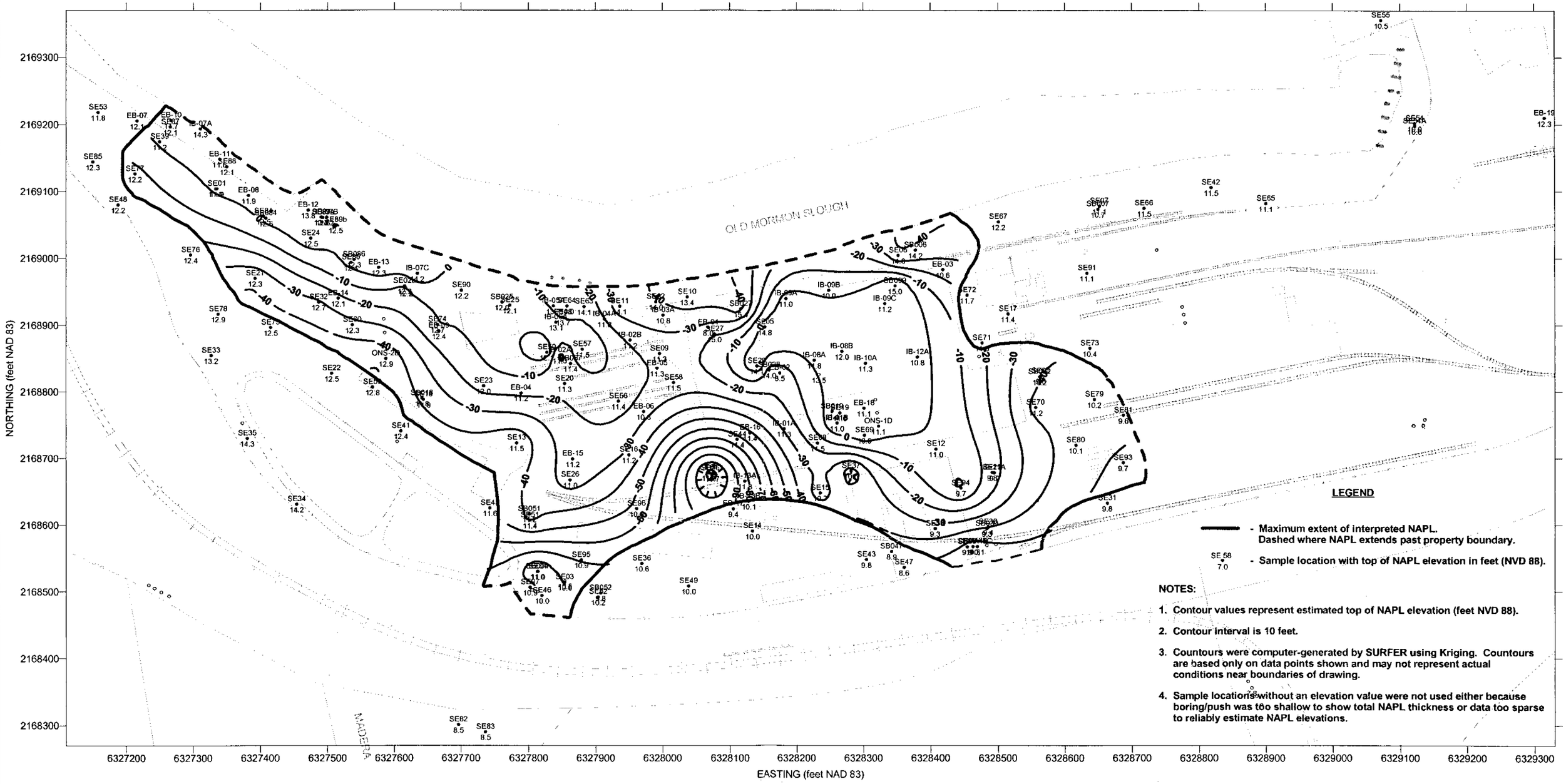


Figure 5-4 NAPL Simulated Distillation





LEGEND

- Maximum extent of interpreted NAPL. Dashed where NAPL extends past property boundary.

SE 56 7.0 - Sample location with top of NAPL elevation in feet (NVD 88).

NOTES:

1. Contour values represent estimated top of NAPL elevation (feet NVD 88).
2. Contour interval is 10 feet.
3. Countours were computer-generated by SURFER using Kriging. Countours are based only on data points shown and may not represent actual conditions near boundaries of drawing.
4. Sample locations without an elevation value were not used either because boring/push was too shallow to show total NAPL thickness or data too sparse to reliably estimate NAPL elevations.

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MC CORMICK & BAXTER SUPERFUND SITE
SITE INVESTIGATION

Figure 5-5

TOP OF NAPL ELEVATION (feet NVD 88)

STOCKTON CALIFORNIA

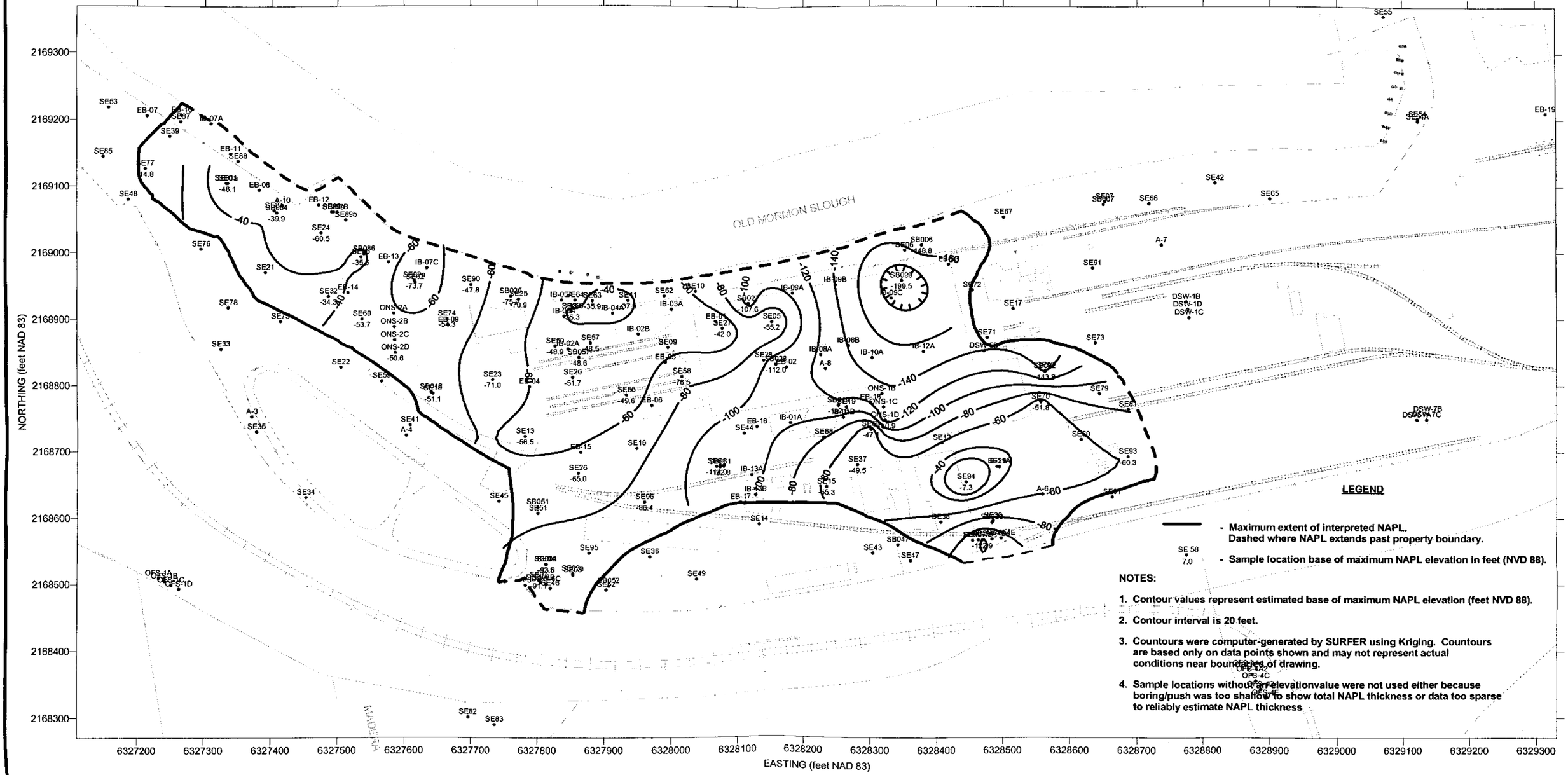

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Figure 5-6

ELEVATION OF BASE OF MAXIMUM NAPL (feet NVD 88)

STOCKTON CALIFORNIA

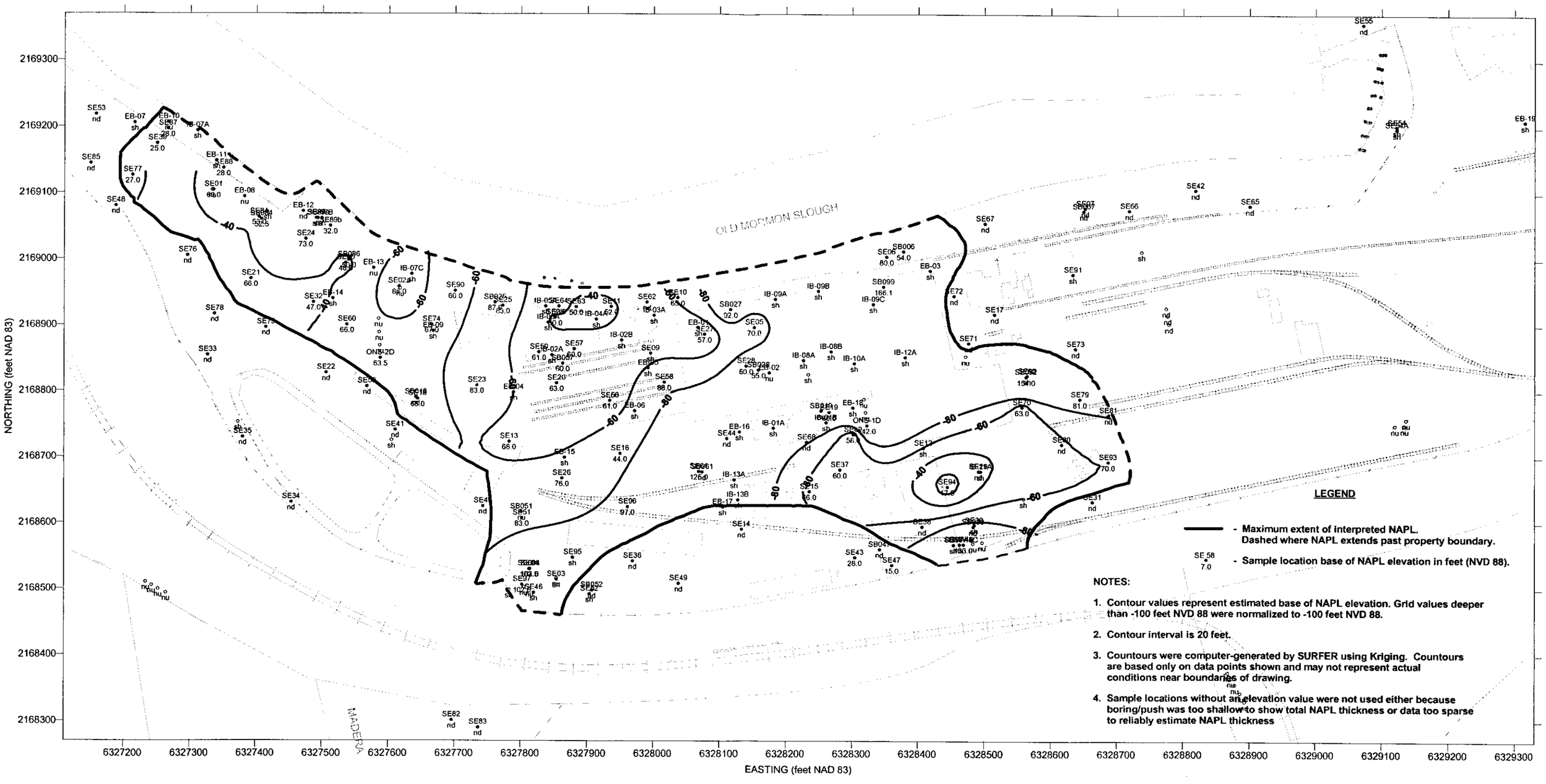

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Figure 5-7

BASE OF NAPL GREATER THAN -100 ELEVATION (feet NVD 88)

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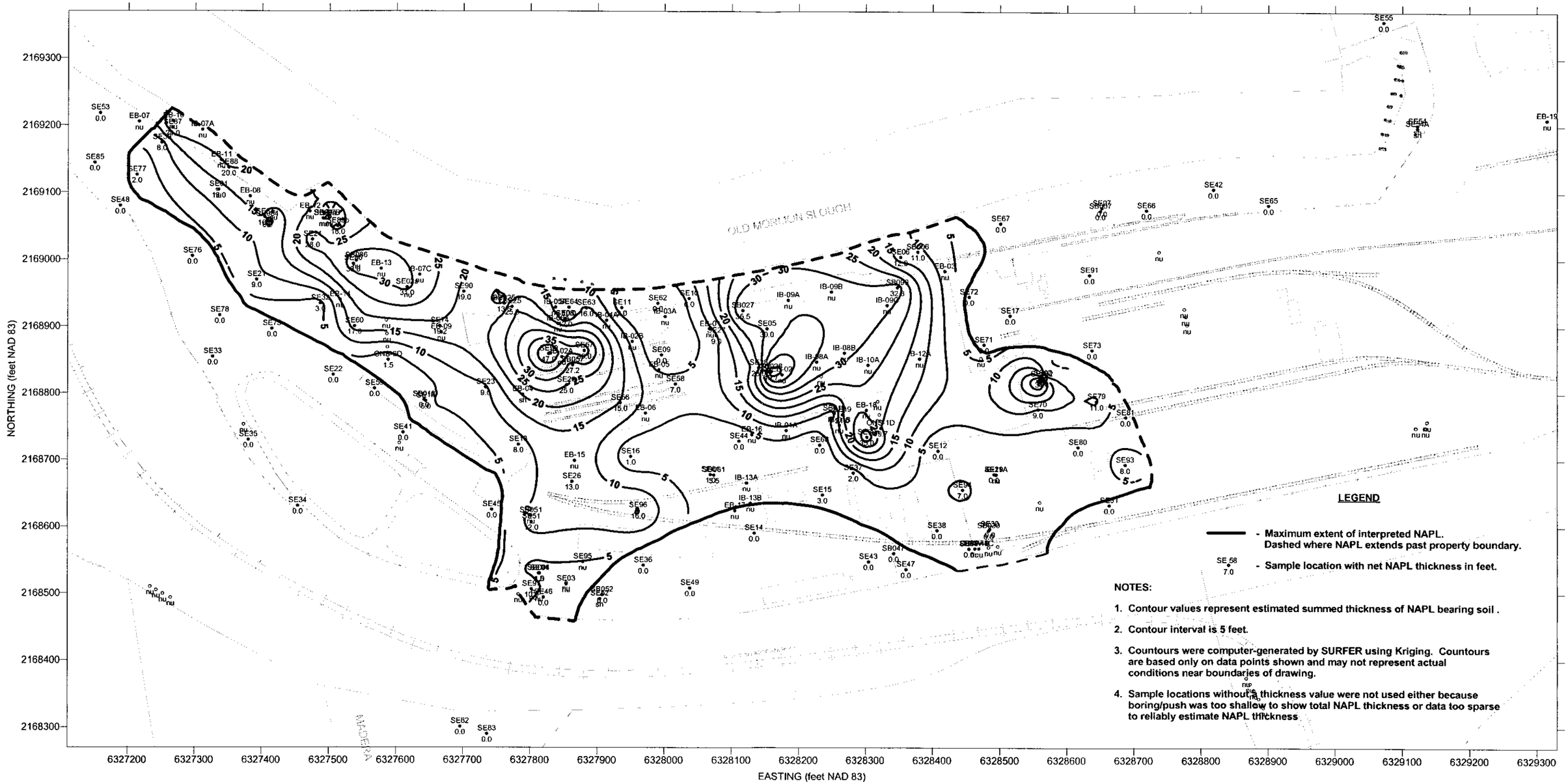

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SITE INVESTIGATION

Figure 5-8

NET THICKNESS OF NAPL BEARING SOIL (feet)

STOCKTON CALIFORNIA

6.0 POST-FIELD INVESTIGATION DATA GAPS AND UNCERTAINTIES

The data quality objective (DQO) process was used to develop the plan for the 1999 NAPL field investigation. However, not all of the existing data gaps were addressed because of access limitations. In addition, more data gaps were identified that need to be addressed before moving forward with selection of a final groundwater remedy. These data gaps are described in this section.

6.1 EXTENT OF NAPL CONTAMINATION AT DSW-4B, DSW-6B, AND OFS-4D

The naphthalene concentrations and trends for these three wells indicate that NAPL contamination has begun to migrate beyond the McCormick and Baxter property. DNAPL may potentially have migrated past the southern property boundary at the main gate and the southeast corner of the stormwater retention ponds at elevations ranging from –50 to –100 feet and –80 to –90 feet, respectively. There are physical accessibility problems related to collecting additional data in these areas (e.g., need for access agreements with other landowners, overhead lines, and current structures). If there is contaminant migration off site in these areas, off-site remediation may have to be considered.

6.2 DENSITY OF SITE DATA

Although a significant amount of data has been collected for the site, there are still areas with uncertainty regarding the presence and amount of NAPL. For example, since the SCAPS was unable to push beyond 152 feet bgs, the amount of data characterizing the deepest portions of the site is sparse. Conditions at the site indicate additional NAPL is likely in the deepest parts of the site. However, the limited amount of data characterizing this part of the site and the nature of NAPL distribution at the site (e.g., thin, vertically discontinuous fingers and stringers) make it difficult to determine the locations and amount of NAPL. An example can be found at SE-35. A potential NAPL stringer identified from 58 to 60 feet bgs during soil sampling was not measured above the detection threshold by LIF. It is possible that a stringer of contamination was found during soil sampling; however, the LIF measurements, collected just a few feet laterally away from the soil sample location, may not measure a nearby NAPL stringer. Below –100 feet elevation, where the density of data drops off dramatically, it is possible that some NAPL was not identified during the characterization process. Additionally, the maximum depth of NAPL at the site is not known.

6.3 POTENTIALLY LOW-BIASED SOIL SAMPLE CHEMICAL RESULTS

Some areas of the site may have significantly higher levels and/or quantities of contamination than have been reported. Several factors may have led to a low bias in the soil contamination analytical results.

- The field sampling team noted that free-phase NAPL was occasionally lost from some of the soil cores before the samples were containerized in jars.

- The field sampling team observed partitioning of NAPL in the sample jars, leading to heterogeneity of the soil samples. In these situations, the way in which the laboratory subsamples can dramatically affect chemical results. Evidence of this problem was documented by the high relative percent differences calculated for duplicate samples of soil samples observed to have mobile NAPL.

- Several of the soil cores were observed to have "veins" of NAPL running through them. In some situations, the field sampling team was forced to homogenize the NAPL veins and globules with the visibly less contaminated soil in the cores, effectively diluting the soil samples, in order to get a sufficient sample volume for analysis.

6.4 NAPL TRANSPORT NORTH OF THE SITE

No investigation work was performed in 1999 north of the McCormick and Baxter property in Old Mormon Slough. Upland DNAPL contamination near the southern edge of the slough is present at shallow elevations ranging from 8 feet elevation to –45 feet elevation. Deeper DNAPL is also present adjacent to the slough near the Main Processing Area from elevations as deep as –60 to –160 feet. Thus, DNAPL could have migrated under the slough to the north along a broad margin and at various depths. If this migration were occurring, the extent of this contamination would need to be determined. The likely source is the upland source areas, the NAPL in the slough sediments, or both.

6.5 NAPL TRANSPORT WITHIN THE EASTERN PORTION OF THE SITE

Access to the Union Pacific property was not available for the 1999 field investigation. Consequently, the potential for NAPL migration eastward from SE-79 and SE-93, through and beyond the UPRR property, is unknown, and there is possible C- and D-zone NAPL contamination near the DSW-1 wells. The size of one of the main NAPL source areas is unclear due to the UPRR property data gap.

6.6 CONTAMINATION ASSOCIATED WITH SE-43 AND SE-47

Two unique near-surface (less than 30 feet bgs) source areas were identified near the entrance to the site at SE-43 and SE-47. The petroleum pattern in samples collected at these locations did not match that for diesel fuel or creosote and could not be identified during the chromatogram review. The contamination found in these areas is not believed to be associated with the main creosote NAPL plume because soil contamination is shallow and is located adjacent to railroad tracks. The contamination in these areas is isolated to less than 30 feet bgs, and is not considered a significant source.

6.7 SUBSURFACE OBSTRUCTION AT SE-03, SE-52, AND SE-97

SCAPS encountered a subsurface obstruction at approximately 16 feet bgs that caused refusal of further penetration at locations SE-03, SE-52, and SE-97. The Resonant Sonic drill rig was able to drill a hole near SE-52; however, this location was collocated approximately 2 feet from the original SCAPS penetration location, SE-52. It is unclear whether a natural or manmade obstruction caused the SCAPS refusal in this area. The type and characteristics of the obstruction are important to know, as they could affect implementation of remedial actions at the site.

6.8 PCP CONTAMINATION IN THE CELLON PROCESS AREA

The Cellon process, which was used by McCormick and Baxter, involved the use of PCP, butane, and ether for wood preservation. Crystals of almost pure PCP were found in a surface soil sample collected at EP-01 in the Cellon Process Area. A screening VOC analysis identified a significant amount of di-isopropyl ether in the surface soil collected at this location. An understanding of the extent of this potential contamination source, as well as any associated contaminant migration, may be required before a final groundwater remedy is selected.

6.9 EXTENT OF PCP AND DIOXIN IN THE A-ZONE AQUIFER

Evaluation of groundwater data shows that PCP and dioxin are extensively found in the A-zone outside of the boundaries identified for the main NAPL plume. One possible explanation for this is a separate, unobserved NAPL carrying the PCP and dioxin in the A-zone, along with an associated PCP and dioxin groundwater plume. Alternatively, there may be undefined vadose zone PCP with dioxin source areas outside of the interpreted NAPL area. These potential source areas would be acting as long-term sources to groundwater contamination in areas outside those affected by the creosote-based NAPL contamination. An understanding of the extent of shallow PCP and dioxin contamination may be required before a final groundwater remedy is selected.

7.0 CONCLUSIONS

The SCAPS LIF data, observations made in the field, and soil data suggest that there are three primary NAPL source areas: (1) Oily Waste Ponds Area, (2) Cellon Process Area, and (3) Main Processing Area. The data also suggest that NAPL has and continues to migrate away from these source areas, extending downward as well as outward to the south, west, and east. There are no LIF data to the north of these source areas, but it is reasonable to assume that the NAPL may also be migrating north of the property boundary.

A review of TPH-Dx analysis chromatograms identified five distinct patterns, which are identified as product types A through E in Table 5-5. A unique PCP source area was identified at location EP-01, where crystals of almost pure PCP and di-isopropyl ether were found in surface soil. Two unique near-surface (less than 30 feet bgs) source areas were identified near the entrance to the site at SE-43 and SE-47. The petroleum patterns in samples collected at these locations did not match those for diesel fuel or creosote and could not be identified.

NAPL has been visually observed in soil borings as a brown to black liquid with strong naphthalene odor. NAPL saturation observed in soil cores has ranged from oozing and/or dripping product to brown stains and/or sheen. Dripping/oozing product was most commonly observed in sandy materials, but also occurred in silt to a limited extent. NAPL is present within both the sand and silt materials identified in the subsurface from at or near ground surface to a maximum observed depth of 212 feet bgs. DNAPL may be as deep as the E-zone of the aquifer (approximately 240 to 250 feet bgs) based on high concentrations of naphthalene in D- and E-zone off-site wells (OFS-4). The bulk of the NAPL appears to be present above an elevation of –100 feet, and deeper NAPL appears to be present in thin, hard to locate stringers. NAPL was observed more often in sand materials than in silt. Sandy material tended to be uniformly saturated with product in soil cores. NAPL within the clayey silt material was usually observed as discontinuous blobs of NAPL or as thin, vertically oriented NAPL stringers. The clayey silt materials are not an effective barrier to vertical DNAPL migration.

The density of stratigraphic and contaminant data above approximately –100 feet elevation is high, and the maximum extent of NAPL above this elevation is well characterized. Below –100 feet elevation, data are relatively sparse. Therefore, NAPL pathways and the maximum horizontal and vertical extent of NAPL below –100 feet elevation are less certain.

The interpreted maximum horizontal extent of NAPL in the subsurface is shown as a solid and dashed line in Figures 5-5 through 5-8. The dashed portion of the boundary indicates areas where NAPL is

present at the property line beyond which no data, or only limited data, are available. Data are insufficient to determine whether NAPL extends beyond the property line at the dashed locations.

The bulk of creosote NAPL is interpreted to be present within the A- and B-zones of the upper aquifer. The volume of space within which NAPL is interpreted to be present at the site is approximately 23,000,000 ft^3 (850,000 yd^3). The volume of space above an elevation of –100 feet within which NAPL is interpreted to be present is approximately 20,000,000 ft^3 (740,000 yd^3). The net thickness of creosote NAPL-contaminated soil at each boring/push was determined by adding together the intervals of observed and interpreted NAPL at each sampled location to derive a net interpreted NAPL thickness for the site (Figure 5-8). The volume of soil containing creosote NAPL is approximately 6,000,000 ft^3 (220,000 yd^3). Assuming a porosity of 0.35 and values of NAPL saturation in the pore space of 1 percent and 10 percent yields a volume of creosote NAPL in the subsurface of 160,000 and 1,600,000 gallons, respectively.

An evaluation of groundwater data indicates that naphthalene may be retarded in the subsurface by a mechanism other than hydrophobic sorption (e.g., biodegradation). Also, PCP and dioxin are dissolved in groundwater at high concentrations in the A-zone outside, and downgradient of, the boundaries identified for the main creosote NAPL plume. Naphthalene is generally at nondetectable or very low levels as a dissolved phase in wells outside of the main creosote NAPL plume, and PCP and dioxin are expected to be less mobile than naphthalene in groundwater. There may be a separate, unobserved NAPL (possibly LNAPL) carrying the PCP and dioxin in the A-zone. Alternatively, there may be PCP-contaminated source areas outside of the interpreted creosote NAPL area that are acting as long-term sources to shallow groundwater contamination.

8.0 RECOMMENDATIONS

Based upon the results, interpretations, data gaps, and conclusions described in this report, the following recommendations are made.

- Further Subsurface Investigations South of the Stormwater Retention Ponds and Main Gate Area. As indicated in Section 6, it is not known to what extent contamination is migrating from the property boundary in these areas. An expedited site characterization approach, using CPT with LIF and rotosonic drilling with soil sampling and analysis, is recommended to evaluate this data gap.

- Subsurface Investigation of the UPRR Property. The presence, extent, and quantity of contamination that has migrated east of SE-79 and SE-93 are not known. An expedited site characterization approach, utilizing CPT with LIF and rotosonic drilling with soil sampling and analysis, is recommended to evaluate this data gap. There may also be C- and D-zone contamination near the DSW-1 wells. Use of rotosonic drilling is recommended to evaluate this data gap.

- Investigation Across and/or Beneath the Old Mormon Slough. The presence, extent, and quantity of contamination that has migrated beneath and north of the slough are not known. An expedited site characterization approach, using CPT with LIF and rotosonic drilling with soil sampling and analysis, and installation of at least two E-zone monitoring wells, is recommended to evaluate this data gap.

- Installation of New Wells. Use of rotosonic drilling to install new wells may be required to fill groundwater plume/contaminant migration data gaps. Further recommendations have been provided in a separate technical memorandum.

- Investigation of the Subsurface Features Near SE-03, SE-52, and SE-95. Exploratory work in this area using an excavator (e.g., backhoe) is recommended to evaluate this data gap.

- Sample Newly-Installed Wells MW2E and MW1A. Collecting a groundwater sample from MW2E and analyzing the sample for TPH, SVOCs, and dioxin/furans are recommended for the next round of groundwater sampling. Collecting a NAPL sample from MW1A and analyzing the sample for TPH and SVOCs is recommended to take place with the next round of groundwater sampling. These wells were installed during the 1999 field investigation and have not been sampled.

- Investigation of the PCP Source Area in the Cellon Process Area and Within the A-Zone Outside of the Main Creosote NAPL Plume. The extent of the shallow PCP source area and whether or not the PCP source near SE-08 is contained within a vault or other structure are important to know as they could affect implementation of remedial actions at the site. An expedited site characterization approach, utilizing a direct-push soil sampling tool and on-site analysis for PCP and SVOCs is recommended to evaluate the presence, extent, and quantity of PCP within the A-zone aquifer and to determine if the source near SE-08 is contained in a vault or other subsurface structure.

- Preparation of a Remedial Design Groundwater Monitoring Strategy. The strategy should meet the following objectives:

    1. Determine the extent (i.e., the down-gradient boundary) of groundwater contamination originating from the site
    2. Determine extent of NAPL in the subsurface and monitor NAPL migration
    3. Determine if dissolved phase contaminant biodegradation is occurring
    4. Monitor groundwater gradients and flow directions
    5. Monitor natural attenuation parameters to evaluate the fate and transport of groundwater contaminants

- Dioxin/Furan Extent of Contamination. Re-evaluate the requirement for collection of additional soil, groundwater, and NAPL samples to determine the extent of subsurface dioxin/furan contamination.

Further recommendations have been provided in a separate technical memorandum.

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APPENDIX A

ROTOSONIC BORING AND SCAPS SOIL DATA – LIF, TRPH, TPH-Dx, PAH/PCP, AND DIOXIN/FURAN RESULTS

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-004	SB-004	SB-004	SB-004
Quadrant	D2	D2	D2	D2
Sample ID	SB004-82.4-82.7	SB004-101.7-102	SB004-109.7-110	SB004-116.8-117.1
Date Sampled	8/10/99	8/10/99	8/10/99	8/10/99
Field QC				
Soil Description	sand	clay	silt	silt
NAPL Description	odor	sheen	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	473	458	--	--
Exsitu peak wavelength	402	402	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	50	--	--
acenaphthene	--	30	--	--
acenaphthylene	--	20 U	--	--
anthracene	--	10 J	--	--
benzo(a)anthracene	--	20 U	--	--
benzo(a)pyrene	--	20 U	--	--
benzo(b)fluoranthene	--	20 U	--	--
benzo(g,h,i)perylene	--	20 U	--	--
benzo(k)fluoranthene	--	20 U	--	--
carbazole	--	20 U	--	--
chrysene	--	20 U	--	--
dibenzo(a,h)anthracene	--	20 U	--	--
dibenzofuran	--	10 J	--	--
fluoranthene	--	20 J	--	--
fluorene	--	20 J	--	--
indeno(1,2,3-cd)pyrene	--	20 U	--	--
naphthalene	--	100	--	--
pentachlorophenol	--	60 U	--	--
phenanthrene	--	40	--	--
pyrene	--	10 J	--	--
Total HPAH (U=1/2)	--	110	--	--
Total LPAH (U=1/2)	--	260	--	--
Total PAH (U=1/2)	--	370	--	--
LPAH/HPAH (U=1/2)	--	2.4	--	--
Naphthalene/Total PAH (U=1/2)	--	0.27	--	--
TPH (mg/kg)				
TRPH	7 J	85	--	--
total hydrocarbons, C10-C39	100 U	320	100 U	100 U
C10-C11	--	93	--	--
C12-C13	--	67	--	--
C14-C15	--	59	--	--
C16-C17	--	45	--	--
C18-C19	--	31	--	--
C20-C21	--	18	--	--
C22-C23	--	7	--	--
C24-C25	--		--	--
C27-C28	--		--	--
C29-C30	--		--	--
C31-C32	--		--	--
C33-C34	--		--	--
C35-C36	--		--	--
C37-C39	--		--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-004	SB-004	SB-004	SB-004
Quadrant	D2	D2	D2	D2
Sample ID	SB004-127.3-127.6	SB004-149.7-150	SB504-149.7-150	SB004-193.0-193.3
Date Sampled	8/10/99	8/10/99	8/10/99	8/11/99
Field QC		Primary	Field Duplicate	
Soil Description	sand	sand	sand	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-004	SB-004	SB-004	SB-006
Quadrant	D2	D2	D2	C3
Sample ID	SB004-203.7-204	SB004-212.6-212.9	SB004-249.7-250	SB006-45
Date Sampled	8/11/99	8/11/99	8/11/99	8/4/99
Field QC				
Soil Description	sand	sand	sand and gravel	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-006
Quadrant	C3	C3	C3	C3
Sample ID	SB006-54	SB006-86	SB006-88	SB006-102
Date Sampled	8/4/99	8/4/99	8/4/99	8/4/99
Field QC				Primary
Soil Description	clay	clay	clay	clay
NAPL Description	odor	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-006
Quadrant	C3	C3	C3	C3
Sample ID	SB506-102	SB006-118.7-119	SB006-123.7-124	SB006-128-128.4
Date Sampled	8/4/99	8/5/99	8/5/99	8/5/99
Field QC	Field Duplicate			
Soil Description	clay	sand	sand	sand
NAPL Description	odor	odor	odor	staining
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	10 J	20 U	20 U
acenaphthene	--	20 U	20 U	20 U
acenaphthylene	--	20 U	20 U	20 U
anthracene	--	20 U	20 U	20 U
benzo(a)anthracene	--	20 U	20 U	20 U
benzo(a)pyrene	--	20 U	20 U	20 U
benzo(b)fluoranthene	--	20 U	20 U	20 U
benzo(g,h,i)perylene	--	20 U	20 U	20 U
benzo(k)fluoranthene	--	20 U	20 U	20 U
carbazole	--	20 U	20 U	20 U
chrysene	--	20 U	20 U	20 U
dibenzo(a,h)anthracene	--	20 U	20 U	20 U
dibenzofuran	--	20 U	20 U	20 U
fluoranthene	--	20 U	20 U	20 U
fluorene	--	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	--	20 U	20 U	20 U
naphthalene	--	30	20 U	20 U
pentachlorophenol	--	60 U	60 U	60 U
phenanthrene	--	20 J	20 U	20 U
pyrene	--	20 U	20 U	20 U
Total HPAH (U=1/2)	--	100	100	100
Total LPAH (U=1/2)	--	100	70	70
Total PAH (U=1/2)	--	200	170	170
LPAH/HPAH (U=1/2)	--	1	0.7	0.7
Naphthalene/Total PAH (U=1/2)	--	0.15	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-006
Quadrant	C3	C3	C3	C3
Sample ID	SB006-133-133.4	SB006-139.5-139.8	SB006-144-144.4	SB006-153-153.3
Date Sampled	8/5/99	8/5/99	8/5/99	8/5/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 U	20 U	20 U
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-006
Quadrant	C3	C3	C3	C3
Sample ID	SB006-162-162.3	SB006-173.6-174	SB006-177.7-178	SB006-182.7-183
Date Sampled	8/5/99	8/5/99	8/5/99	8/5/99
Field QC				Primary
Soil Description	silt	sand	sand	silt
NAPL Description	mobile	odor	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	1800	20 U	20 U	30 U
acenaphthene	1000	20 U	20 U	30 U
acenaphthylene	300	20 U	20 U	30 U
anthracene	270	20 U	20 U	30 U
benzo(a)anthracene	180	20 U	20 U	30 U
benzo(a)pyrene	90	20 U	20 U	30 U
benzo(b)fluoranthene	110	20 U	20 U	30 U
benzo(g,h,i)perylene	30	20 U	20 U	30 U
benzo(k)fluoranthene	40	20 U	20 U	30 U
carbazole	160	20 U	20 U	30 U
chrysene	170	20 U	20 U	30 U
dibenzo(a,h)anthracene	30 U	20 U	20 U	30 U
dibenzofuran	600	20 U	20 U	30 U
fluoranthene	770	20 U	20 U	30 U
fluorene	660	20 U	20 U	30 U
indeno(1,2,3-cd)pyrene	30	20 U	20 U	30 U
naphthalene	4100	20 U	20 U	30 U
pentachlorophenol	70 U	60 U	60 U	60 U
phenanthrene	1600	20 U	20 U	30 U
pyrene	590	20 U	20 U	30 U
Total HPAH (U=1/2)	2025	100	100	150
Total LPAH (U=1/2)	9730	70	70	105
Total PAH (U=1/2)	11755	170	170	255
LPAH/HPAH (U=1/2)	4.8	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.35	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	6900	100 U	100 U	100 U
C10-C11	1900	--	--	--
C12-C13	1300	--	--	--
C14-C15	1100	--	--	--
C16-C17	900	--	--	--
C18-C19	600	--	--	--
C20-C21	500	--	--	--
C22-C23	300	--	--	--
C24-C25	110	--	--	--
C27-C28	80	--	--	--
C29-C30	70	--	--	--
C31-C32	30	--	--	--
C33-C34		--	--	--
C35-C36		--	--	--
C37-C39		--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-006
Quadrant	C3	C3	C3	C3
Sample ID	SB506-182.7-183	SB006-198.5-198.8	SB006-207-207.3	SB006-212.5-212.8
Date Sampled	8/5/99	8/5/99	8/5/99	8/6/99
Field QC	Field Duplicate			
Soil Description	silt	clay	clay	clay
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	30 U	30 U	30 U	40
acenaphthene	30 U	30 U	30 U	40
acenaphthylene	30 U	30 U	30 U	20 U
anthracene	30 U	30 U	30 U	10 J
benzo(a)anthracene	30 U	30 U	30 U	20 U
benzo(a)pyrene	30 U	30 U	30 U	20 U
benzo(b)fluoranthene	30 U	30 U	30 U	20 U
benzo(g,h,i)perylene	30 U	30 U	30 U	20 U
benzo(k)fluoranthene	30 U	30 U	30 U	20 U
carbazole	30 U	30 U	30 U	20 U
chrysene	30 U	30 U	30 U	20 U
dibenzo(a,h)anthracene	30 U	30 U	30 U	20 U
dibenzofuran	30 U	30 U	30 U	20
fluoranthene	30 U	30 U	30 U	30
fluorene	30 U	30 U	30 U	30
indeno(1,2,3-cd)pyrene	30 U	30 U	30 U	20 U
naphthalene	30 U	30 U	30 U	40
pentachlorophenol	60 U	70 U	60 U	60 U
phenanthrene	30 U	30 U	30 U	70
pyrene	30 U	30 U	30 U	20
Total HPAH (U=1/2)	150	150	150	130
Total LPAH (U=1/2)	105	105	105	240
Total PAH (U=1/2)	255	255	255	370
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	1.8
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.11
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	700
C10-C11	--	--	--	190
C12-C13	--	--	--	130
C14-C15	--	--	--	110
C16-C17	--	--	--	90
C18-C19	--	--	--	60
C20-C21	--	--	--	50
C22-C23	--	--	--	30
C24-C25	--	--	--	9
C27-C28	--	--	--	11
C29-C30	--	--	--	6
C31-C32	--	--	--	
C33-C34	--	--	--	
C35-C36	--	--	--	
C37-C39	--	--	--	

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-006	SB-006	SB-006	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB006-227.2-227.5	SB006-239.7-240	SB006-249.7-250	SB007-32.3-32.6
Date Sampled	8/6/99	8/6/99	8/6/99	9/14/99
Field QC				Primary
Soil Description	clay	sand	sand and gravel	sand
NAPL Description	sheen	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 U	20 U	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	50 U	50 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB507-32.3-32.6	SB007-36.0-36.3	SB007-41.7-42.0	SB007-49.7-50.0
Date Sampled	9/14/99	9/14/99	9/14/99	9/14/99
Field QC	Field Duplicate			
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB007-54.7-55.0	SB007-57.3-57.6	SB007-63.6-63.9	SB007-66.7-67.0
Date Sampled	9/14/99	9/14/99	9/14/99	9/14/99
Field QC				
Soil Description	sand	clay	clay	sand
NAPL Description	nothing	nothing	nothing	sheen
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB007-74.0-74.3	SB007-79.0-79.3	SB007-83.0-83.3	SB007-90.0-90.5
Date Sampled	9/14/99	9/14/99	9/15/99	9/15/99
Field QC				
Soil Description	sand	sand	clay	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	--	--
acenaphthene	20 U	20 U	--	--
acenaphthylene	20 U	20 U	--	--
anthracene	20 U	20 U	--	--
benzo(a)anthracene	20 U	20 U	--	--
benzo(a)pyrene	20 U	20 U	--	--
benzo(b)fluoranthene	20 U	20 U	--	--
benzo(g,h,i)perylene	20 U	20 U	--	--
benzo(k)fluoranthene	20 U	20 U	--	--
carbazole	20 UJ	20 UJ	--	--
chrysene	20 U	20 U	--	--
dibenzo(a,h)anthracene	20 U	20 U	--	--
dibenzofuran	20 U	20 U	--	--
fluoranthene	20 U	20 U	--	--
fluorene	20 U	20 U	--	--
indeno(1,2,3-cd)pyrene	20 U	20 U	--	--
naphthalene	20 U	20 U	--	--
pentachlorophenol	60 U	60 U	--	--
phenanthrene	20 U	20 U	--	--
pyrene	20 U	20 U	--	--
Total HPAH (U=1/2)	100	100	--	--
Total LPAH (U=1/2)	70	70	--	--
Total PAH (U=1/2)	170	170	--	--
LPAH/HPAH (U=1/2)	0.7	0.7	--	--
Naphthalene/Total PAH (U=1/2)	0.12	0.12	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB007-97.0-97.5	SB007-102.0-102.3	SB007-106.3-106.6	SB007-116.3-116.6
Date Sampled	9/15/99	9/15/99	9/15/99	9/15/99
Field QC				Primary
Soil Description	clay	clay	clay	silt
NAPL Description	nothing	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB507-116.3-117.3	SB007-122.0-122.3	SB007-126.7-127.3	SB007-134.0-134.3
Date Sampled	9/15/99	9/15/99	9/15/99	9/15/99
Field QC	Field Duplicate			
Soil Description	silt	sand	clay	sand
NAPL Description	odor	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB007-139.0-139.3	SB007-145.3-145.6	SB007-150.0-150.5	SB007-156.5-156.8
Date Sampled	9/15/99	9/15/99	9/16/99	9/16/99
Field QC				
Soil Description	sand	sand	sand	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB007-168.3-168.6	SB007-171.5-171.8	SB007-176.3-176.6	SB007-180.5-181.0
Date Sampled	9/16/99	9/16/99	9/16/99	9/16/99
Field QC				Primary
Soil Description	sand	sand	silt	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-007	SB-007	SB-007
Quadrant	C3	C3	C3	C3
Sample ID	SB507-180.5-181.0	SB007-184.4-184.7	SB007-197.0-197.3	SB007-209.0-209.3
Date Sampled	9/16/99	9/16/99	9/16/99	9/16/99
Field QC	Field Duplicate			
Soil Description	clay	sand	silt	silt
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-007	SB-018	SB-018	SB-018
Quadrant	C3	C1	C1	C1
Sample ID	SB007-214.0-214.3	SB018-80.5-80.8	SB018-84.7-85.0	SB018-91.3-91.6
Date Sampled	9/16/99	8/19/99	8/19/99	8/19/99
Field QC				
Soil Description	clay	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	358	--	--
Exsitu peak wavelength	--	401	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	20 U	20 U	--
acenaphthene	--	20 U	20 U	--
acenaphthylene	--	20 U	20 U	--
anthracene	--	20 U	20 U	--
benzo(a)anthracene	--	20 U	20 U	--
benzo(a)pyrene	--	20 U	20 U	--
benzo(b)fluoranthene	--	20 U	20 U	--
benzo(g,h,i)perylene	--	20 U	20 U	--
benzo(k)fluoranthene	--	20 U	20 U	--
carbazole	--	20 U	20 U	--
chrysene	--	20 U	20 U	--
dibenzo(a,h)anthracene	--	20 U	20 U	--
dibenzofuran	--	20 U	20 U	--
fluoranthene	--	20 U	20 U	--
fluorene	--	20 U	20 U	--
indeno(1,2,3-cd)pyrene	--	20 U	20 U	--
naphthalene	--	20 U	20 U	--
pentachlorophenol	--	50 U	60 U	--
phenanthrene	--	20 U	20 U	--
pyrene	--	20 U	20 U	--
Total HPAH (U=1/2)	--	100	100	--
Total LPAH (U=1/2)	--	70	70	--
Total PAH (U=1/2)	--	170	170	--
LPAH/HPAH (U=1/2)	--	0.7	0.7	--
Naphthalene/Total PAH (U=1/2)	--	0.12	0.12	--
TPH (mg/kg)				
TRPH	--	1 J	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-018	SB-018	SB-018	SB-018
Quadrant	C1	C1	C1	C1
Sample ID	SB018-109.5-109.8	SB018-113.8-114.1	SB018-129.5-129.9	SB518-129.5-129.9
Date Sampled	8/19/99	8/19/99	8/19/99	8/19/99
Field QC			Primary	Field Duplicate
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	20 U	20 U
acenaphthene	--	--	20 U	20 U
acenaphthylene	--	--	20 U	20 U
anthracene	--	--	20 U	20 U
benzo(a)anthracene	--	--	20 U	20 U
benzo(a)pyrene	--	--	20 U	20 U
benzo(b)fluoranthene	--	--	20 U	20 U
benzo(g,h,i)perylene	--	--	20 U	20 U
benzo(k)fluoranthene	--	--	20 U	20 U
carbazole	--	--	20 U	20 U
chrysene	--	--	20 U	20 U
dibenzo(a,h)anthracene	--	--	20 U	20 U
dibenzofuran	--	--	20 U	20 U
fluoranthene	--	--	20 U	20 U
fluorene	--	--	20 U	20 U
indeno(1,2,3-cd)pyrene	--	--	20 U	20 U
naphthalene	--	--	20 U	20 U
pentachlorophenol	--	--	50 U	50 U
phenanthrene	--	--	20 U	20 U
pyrene	--	--	20 U	20 U
Total HPAH (U=1/2)	--	--	100	100
Total LPAH (U=1/2)	--	--	70	70
Total PAH (U=1/2)	--	--	170	170
LPAH/HPAH (U=1/2)	--	--	0.7	0.7
Naphthalene/Total PAH (U=1/2)	--	--	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-018	SB-018	SB-018	SB-018
Quadrant	C1	C1	C1	C1
Sample ID	SB018-133.9-134.2	SB018-148.0-148.3	SB018-165.1-165.4	SB018-183.4-183.7
Date Sampled	8/19/99	8/19/99	8/19/99	8/19/99
Field QC				
Soil Description	sand	sand	sand	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-019	SB-019	SB-019	SB-019
Quadrant	C2	C2	C2	C2
Sample ID	SB019-37.4-37.7	SB519-37.4-37.7	SB019-53.6-53.9	SB019-82.0-82.3
Date Sampled	8/12/99	8/12/99	8/12/99	8/13/99
Field QC	Primary	Field Duplicate		
Soil Description	sand	sand	sand	clay
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	324	360	452	--
Exsitu peak wavelength	402	402	402	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	--
acenaphthene	20 U	20 U	20 U	--
acenaphthylene	20 U	20 U	20 U	--
anthracene	20 U	20 U	20 U	--
benzo(a)anthracene	20 U	20 U	20 U	--
benzo(a)pyrene	20 U	20 U	20 U	--
benzo(b)fluoranthene	20 U	20 U	20 U	--
benzo(g,h,i)perylene	20 U	20 U	20 U	--
benzo(k)fluoranthene	20 U	20 U	20 U	--
carbazole	20 U	20 U	20 U	--
chrysene	20 U	20 U	20 U	--
dibenzo(a,h)anthracene	20 U	20 U	20 U	--
dibenzofuran	20 U	20 U	20 U	--
fluoranthene	20 U	20 U	20 U	--
fluorene	20 U	20 U	20 U	--
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	--
naphthalene	20 U	20 U	20 U	--
pentachlorophenol	60 U	60 U	60 U	--
phenanthrene	20 U	20 U	20 U	--
pyrene	20 U	20 U	20 U	--
Total HPAH (U=1/2)	100	100	100	--
Total LPAH (U=1/2)	70	70	70	--
Total PAH (U=1/2)	170	170	170	--
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	--
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	--
TPH (mg/kg)				
TRPH	151	99	142	--
total hydrocarbons, C10-C39	88 J	120	160	100 U
C10-C11			7	--
C12-C13	6	12	10	--
C14-C15	21	29	37	--
C16-C17	27	28	36	--
C18-C19	13	25	36	--
C20-C21	19	26	27	--
C22-C23			5	--
C24-C25				--
C27-C28				--
C29-C30				--
C31-C32				--
C33-C34				--
C35-C36				--
C37-C39				--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-019	SB-019	SB-019	SB-019
Quadrant	C2	C2	C2	C2
Sample ID	SB019-94.0-94.4	SB019-129.6-129.9	SB519-137.0-137.3	SB019-140.9-141.2
Date Sampled	8/13/99	8/13/99	8/13/99	8/13/99
Field QC			Field Duplicate	
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-019	SB-019	SB-019	SB-025
Quadrant	C2	C2	C2	C2
Sample ID	SB019-162.7-163.0	SB019-174.7-175.0	SB019-182.7-183	SB025-86.4-86.7
Date Sampled	8/16/99	8/16/99	8/16/99	8/26/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	342
Exsitu peak wavelength	--	--	--	402
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	20 U
acenaphthene	--	--	--	20 U
acenaphthylene	--	--	--	20 U
anthracene	--	--	--	20 U
benzo(a)anthracene	--	--	--	20 U
benzo(a)pyrene	--	--	--	20 U
benzo(b)fluoranthene	--	--	--	20 U
benzo(g,h,i)perylene	--	--	--	20 U
benzo(k)fluoranthene	--	--	--	20 U
carbazole	--	--	--	20 U
chrysene	--	--	--	20 U
dibenzo(a,h)anthracene	--	--	--	20 U
dibenzofuran	--	--	--	20 U
fluoranthene	--	--	--	20 U
fluorene	--	--	--	20 U
indeno(1,2,3-cd)pyrene	--	--	--	20 U
naphthalene	--	--	--	20 U
pentachlorophenol	--	--	--	60 U
phenanthrene	--	--	--	20 U
pyrene	--	--	--	20 U
Total HPAH (U=1/2)	--	--	--	100
Total LPAH (U=1/2)	--	--	--	70
Total PAH (U=1/2)	--	--	--	170
LPAH/HPAH (U=1/2)	--	--	--	0.7
Naphthalene/Total PAH (U=1/2)	--	--	--	0.12
TPH (mg/kg)				
TRPH	--	--	--	15 U
total hydrocarbons, C10-C39	100 U	100 U	3.9	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-025	SB-025	SB-025	SB-025
Quadrant	C2	C2	C2	C2
Sample ID	SB025-96.0-96.4	SB025-109.7-110	SB025-129.7-130.0	SB025-132.0-132.4
Date Sampled	8/26/99	8/26/99	8/26/99	8/26/99
Field QC				
Soil Description	sand	silt	sand	sand
NAPL Description	odor	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	--	--	--
acenaphthene	20 U	--	--	--
acenaphthylene	20 U	--	--	--
anthracene	20 U	--	--	--
benzo(a)anthracene	20 U	--	--	--
benzo(a)pyrene	20 U	--	--	--
benzo(b)fluoranthene	20 U	--	--	--
benzo(g,h,i)perylene	20 U	--	--	--
benzo(k)fluoranthene	20 U	--	--	--
carbazole	20 U	--	--	--
chrysene	20 U	--	--	--
dibenzo(a,h)anthracene	20 U	--	--	--
dibenzofuran	20 U	--	--	--
fluoranthene	20 U	--	--	--
fluorene	20 U	--	--	--
indeno(1,2,3-cd)pyrene	20 U	--	--	--
naphthalene	20 U	--	--	--
pentachlorophenol	60 U	--	--	--
phenanthrene	20 U	--	--	--
pyrene	20 U	--	--	--
Total HPAH (U=1/2)	100	--	--	--
Total LPAH (U=1/2)	70	--	--	--
Total PAH (U=1/2)	170	--	--	--
LPAH/HPAH (U=1/2)	0.7	--	--	--
Naphthalene/Total PAH (U=1/2)	0.12	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-025	SB-025	SB-025	SB-025
Quadrant	C2	C2	C2	C2
Sample ID	SB025-137.2-137.5	SB025-145.6-146	SB025-159.7-160.0	SB025-163.0-163.4
Date Sampled	8/26/99	8/26/99	8/27/99	8/27/99
Field QC				Primary
Soil Description	silt	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-025	SB-025	SB-025	SB-025
Quadrant	C2	C2	C2	C2
Sample ID	SB525-163.0-163.4	SB025-179.7-180.0	SB025-193.6-194.3	SB025-202.8-203.1
Date Sampled	8/27/99	8/27/99	8/27/99	8/27/99
Field QC	Field Duplicate			
Soil Description	sand	sand	silt	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-9.4-9.7	SB027-13.3-13.7	SB027-19.7-20.0	SB027-24.0-24.4
Date Sampled	9/2/99	9/2/99	9/2/99	9/2/99
Field QC				
Soil Description	sand	clay	clay	sand
NAPL Description	sheen	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	30 U	20 U	20 U
acenaphthene	20 U	30 U	20 U	20 U
acenaphthylene	20 U	30 U	20 U	20 U
anthracene	20 U	30 U	20 U	20 U
benzo(a)anthracene	20 U	30 U	20 U	20 U
benzo(a)pyrene	20 U	30 U	20 U	20 U
benzo(b)fluoranthene	20 U	30 U	20 U	20 U
benzo(g,h,i)perylene	20 U	30 U	20 U	20 U
benzo(k)fluoranthene	20 U	30 U	20 U	20 U
carbazole	20 UJ	30 UJ	20 U	20 U
chrysene	20 U	30 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	30 U	20 U	20 U
dibenzofuran	20 U	30 U	20 U	20 U
fluoranthene	20 U	30 U	20 U	20 U
fluorene	20 U	30 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	30 U	20 U	20 U
naphthalene	20 U	30 U	20 U	20 U
pentachlorophenol	50 U	530	230	200
phenanthrene	20 U	30 U	20 U	20 U
pyrene	20 U	30 U	20 U	20 U
Total HPAH (U=1/2)	100	150	100	100
Total LPAH (U=1/2)	70	105	70	70
Total PAH (U=1/2)	170	255	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-33.9-34.2	SB027-46.3-46.7	SB027-59.6-60.0	SB027-61.0-61.4
Date Sampled	9/2/99	9/2/99	9/2/99	9/2/99
Field QC				Primary
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	nothing	sheen
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 UJ	20 U	20 U
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB527-61.0-61.4	SB027-63.6-64.0	SB027-69.0-69.3	SB027-73.4-73.9
Date Sampled	9/2/99	9/2/99	9/2/99	9/2/99
Field QC	Field Duplicate			
Soil Description	sand	sand	sand	sand
NAPL Description	sheen	sheen	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	30	130	180
acenaphthene	20 U	40	80	100
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20	30	30
benzo(a)anthracene	20 U	10 J	20 U	20
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	10 J
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 U	20 U	10 J
chrysene	20 U	10 J	10 J	20
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20	50	60
fluoranthene	20 U	40	50	60
fluorene	20 U	20	50	60
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	40	130	210
pentachlorophenol	50 U	60 U	60 U	50 U
phenanthrene	20 U	80	120	130
pyrene	20 U	40	40	50
Total HPAH (U=1/2)	100	160	170	210
Total LPAH (U=1/2)	70	240	550	720
Total PAH (U=1/2)	170	400	720	930
LPAH/HPAH (U=1/2)	0.7	1.5	3.2	3.4
Naphthalene/Total PAH (U=1/2)	0.12	0.1	0.18	0.23
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	830	1300	670
C10-C11	--	190	400	240
C12-C13	--	120	320	150
C14-C15	--	130	240	110
C16-C17	--	110	140	58
C18-C19	--	89	89	40
C20-C21	--	74	65	30
C22-C23	--	50	40	20
C24-C25	--	20	20	8
C27-C28	--	20	20	8
C29-C30	--	10	10	5
C31-C32	--			
C33-C34	--			
C35-C36	--			
C37-C39	--			

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-84.2-84.5	SB027-89.2-89.5	SB027-96.3-96.9	SB027-105.6-106.0
Date Sampled	9/2/99	9/2/99	9/2/99	9/2/99
Field QC				
Soil Description	clay	sand	clay	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 U	20 U	20 U
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	50 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	60 J	100 U
C10-C11	--	--	10	--
C12-C13	--	--	20	--
C14-C15	--	--	10	--
C16-C17	--	--	9	--
C18-C19	--	--	6	--
C20-C21	--	--	5	--
C22-C23	--	--		--
C24-C25	--	--		--
C27-C28	--	--		--
C29-C30	--	--		--
C31-C32	--	--		--
C33-C34	--	--		--
C35-C36	--	--		--
C37-C39	--	--		--

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2
Sample ID	SB027-113.3-113.7	SB027-115.9-116.3	SB027-122.8-123.1
Date Sampled	9/3/99	9/3/99	9/3/99
Field QC			
Soil Description	sand	sand	sand
NAPL Description	odor	sheen	sheen
LIF (counts/wavelength)			
Exsitu maximum intensity	--	--	--
Exsitu peak wavelength	--	--	--
PAHs (mg/kg)			
2-methylnaphthalene	20	620	1900
acenaphthene	10 J	360	1000
acenaphthylene	20 U	20 U	20
anthracene	10 J	110	400
benzo(a)anthracene	10 J	60	160
benzo(a)pyrene	20 U	30	80
benzo(b)fluoranthene	20 U	40	100
benzo(g,h,i)perylene	20 U	20 U	30
benzo(k)fluoranthene	20 U	10 J	40
carbazole	20 UJ	30 J	100 J
chrysene	20 U	60	150
dibenzo(a,h)anthracene	20 U	20 U	20 U
dibenzofuran	20 U	210	600
fluoranthene	40	240	700
fluorene	10 J	220	700
indeno(1,2,3-cd)pyrene	20 U	10 J	30
naphthalene	20	840	2700
pentachlorophenol	50 U	50 U	60 U
phenanthrene	60	500	1500
pyrene	30	180	500
Total HPAH (U=1/2)	150	650	1800
Total LPAH (U=1/2)	140	2660	8220
Total PAH (U=1/2)	290	3310	10020
LPAH/HPAH (U=1/2)	0.93	4.1	4.6
Naphthalene/Total PAH (U=1/2)	0.06	0.25	0.27
TPH (mg/kg)			
TRPH	--	--	--
total hydrocarbons, C10-C39	380	5100	15000
C10-C11	67	1200	3500
C12-C13	46	1100	3300
C14-C15	51	960	2800
C16-C17	59	630	1900
C18-C19	52	440	1300
C20-C21	40	330	970
C22-C23	30	200	590
C24-C25	10	100	300
C27-C28	10	100	270
C29-C30	9	60	200
C31-C32		20	50
C33-C34		20	50
C35-C36			
C37-C39			

Notes:

--: Not analyzed.

blank: analyte not detected at unknown detection limit.

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-129.7-130.0	SB027-142.3-143.0	SB527-142.3-143.0	SB027-152.3-152.7
Date Sampled	9/3/99	9/3/99	9/3/99	9/3/99
Field QC		Primary	Field Duplicate	
Soil Description	sand	sand	sand	sand
NAPL Description	odor	nothing	nothing	sheen
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	--	20 U	--
acenaphthene	20 U	--	20 U	--
acenaphthylene	20 U	--	20 U	--
anthracene	20 U	--	20 U	--
benzo(a)anthracene	20 U	--	20 U	--
benzo(a)pyrene	20 U	--	20 U	--
benzo(b)fluoranthene	20 U	--	20 U	--
benzo(g,h,i)perylene	20 U	--	20 U	--
benzo(k)fluoranthene	20 U	--	20 U	--
carbazole	20 UJ	--	20 UJ	--
chrysene	20 U	--	20 U	--
dibenzo(a,h)anthracene	20 U	--	20 U	--
dibenzofuran	20 U	--	20 U	--
fluoranthene	20 U	--	20 U	--
fluorene	20 U	--	20 U	--
indeno(1,2,3-cd)pyrene	20 U	--	20 U	--
naphthalene	20 U	--	20 U	--
pentachlorophenol	50 U	--	60 U	--
phenanthrene	20 U	--	20 U	--
pyrene	20 U	--	20 U	--
Total HPAH (U=1/2)	100	--	100	--
Total LPAH (U=1/2)	70	--	70	--
Total PAH (U=1/2)	170	--	170	--
LPAH/HPAH (U=1/2)	0.7	--	0.7	--
Naphthalene/Total PAH (U=1/2)	0.12	--	0.12	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-166.6-167.0	SB027-172.5-172.8	SB027-183.7-184.0	SB027-193.0-193.4
Date Sampled	9/3/99	9/7/99	9/7/99	9/7/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	odor	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-027	SB-027
Quadrant	C2	C2	C2	C2
Sample ID	SB027-201.3-201.7	SB027-214-214.5	SB527-214-214.5	SB027-217.7-218.0
Date Sampled	9/7/99	9/7/99	9/7/99	9/7/99
Field QC		Primary	Field Duplicate	
Soil Description	sand	clay	clay	sand
NAPL Description	odor	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	20 U	20 U	--
acenaphthene	--	20 U	20 U	--
acenaphthylene	--	20 U	20 U	--
anthracene	--	20 U	20 U	--
benzo(a)anthracene	--	20 U	20 U	--
benzo(a)pyrene	--	20 U	20 U	--
benzo(b)fluoranthene	--	20 U	20 U	--
benzo(g,h,i)perylene	--	20 U	20 U	--
benzo(k)fluoranthene	--	20 U	20 U	--
carbazole	--	20 UJ	20 UJ	--
chrysene	--	20 U	20 U	--
dibenzo(a,h)anthracene	--	20 U	20 U	--
dibenzofuran	--	20 U	20 U	--
fluoranthene	--	20 U	20 U	--
fluorene	--	20 U	20 U	--
indeno(1,2,3-cd)pyrene	--	20 U	20 U	--
naphthalene	--	20 U	20 U	--
pentachlorophenol	--	60 U	60 U	--
phenanthrene	--	20 U	20 U	--
pyrene	--	20 U	20 U	--
Total HPAH (U=1/2)	--	100	100	--
Total LPAH (U=1/2)	--	70	70	--
Total PAH (U=1/2)	--	170	170	--
LPAH/HPAH (U=1/2)	--	0.7	0.7	--
Naphthalene/Total PAH (U=1/2)	--	0.12	0.12	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-027	SB-027	SB-028	SB-028
Quadrant	C2	C2	C2	C2
Sample ID	SB027-224.4-224.9	SB027-228.0-228.5	SB028-8.0-8.4	SB028-9.0-10.1
Date Sampled	9/7/99	9/7/99	9/29/99	8/8/99
Field QC				
Soil Description	sand	clay	clay	
NAPL Description	nothing	nothing	odor	
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	120	20 U
acenaphthene	--	--	90	20 U
acenaphthylene	--	--	20 U	20 U
anthracene	--	--	220	20 U
benzo(a)anthracene	--	--	20	20 U
benzo(a)pyrene	--	--	10 J	20 U
benzo(b)fluoranthene	--	--	10 J	20 U
benzo(g,h,i)perylene	--	--	20 U	20 U
benzo(k)fluoranthene	--	--	20 U	20 U
carbazole	--	--	100	20 U
chrysene	--	--	30	20 U
dibenzo(a,h)anthracene	--	--	20 U	20 U
dibenzofuran	--	--	70	20 U
fluoranthene	--	--	110	20 U
fluorene	--	--	90	20 U
indeno(1,2,3-cd)pyrene	--	--	20 U	20 U
naphthalene	--	--	110	20 U
pentachlorophenol	--	--	140	60 U
phenanthrene	--	--	240	20 U
pyrene	--	--	90	20 U
Total HPAH (U=1/2)	--	--	310	100
Total LPAH (U=1/2)	--	--	880	70
Total PAH (U=1/2)	--	--	1190	170
LPAH/HPAH (U=1/2)	--	--	2.8	0.7
Naphthalene/Total PAH (U=1/2)	--	--	0.09	0.12
TPH (mg/kg)				
TRPH	--	--	--	34
total hydrocarbons, C10-C39	100 U	100 U	880	250
C10-C11	--	--	22	5
C12-C13	--	--	51	10
C14-C15	--	--	95	30
C16-C17	--	--	490	180
C18-C19	--	--	83	10
C20-C21	--	--	46	9
C22-C23	--	--	51	5
C24-C25	--	--	23	
C27-C28	--	--	15	
C29-C30	--	--		
C31-C32	--	--		
C33-C34	--	--		
C35-C36	--	--		
C37-C39	--	--		

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-028	SB-028	SB-028	SB-028
Quadrant	C2	C2	C2	C2
Sample ID	SB028-10.1-11	SB028-12-12.5	SB028-28.3-29.4	SB028-31-33
Date Sampled	8/8/99	9/29/99	9/29/99	9/29/99
Field QC				
Soil Description		clay	sand & gravel	sand
NAPL Description		odor	sheen	sheen
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20	10 J	180	140
acenaphthene	20	20 U	110	70
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	10 J	180	60	40
benzo(a)anthracene	20 U	20 U	50	20
benzo(a)pyrene	20 U	20 U	20	20 U
benzo(b)fluoranthene	20 U	20 U	30	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20	20 U
carbazole	20 U	70 J	40 J	20 J
chrysene	20 U	20 U	50	20
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	10 J	20 U	100	50
fluoranthene	30	10 J	200	70
fluorene	20	20	80	50
indeno(1,2,3-cd)pyrene	20 U	20 U	10 J	20 U
naphthalene	20 U	20 U	620 J	450
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	60	40	350 J	160
pyrene	20	20 U	150	60
Total HPAH (U=1/2)	130	100	550	230
Total LPAH (U=1/2)	150	280	1410	920
Total PAH (U=1/2)	280	380	1960	1150
LPAH/HPAH (U=1/2)	1.2	2.8	2.6	4
Naphthalene/Total PAH (U=1/2)	0.07	0.05	0.32	0.39
TPH (mg/kg)				
TRPH	353	--	--	--
total hydrocarbons, C10-C39	440	250	2600	1300
C10-C11	10	5	690	420
C12-C13	45	9	330	210
C14-C15	74	22	390	230
C16-C17	84	180	410	180
C18-C19	67	20	300	130
C20-C21	58	19	230	84
C22-C23	50		120	42
C24-C25	20		30	16
C27-C28	20		47	16
C29-C30	10		25	10
C31-C32				
C33-C34				
C35-C36				
C37-C39				

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-028	SB-028	SB-028	SB-028
Quadrant	C2	C2	C2	C2
Sample ID	SB028-48-49.7	SB028-53.5-55	SB528-53.5-55	SB028-55-56
Date Sampled	9/29/99	9/29/99	9/29/99	9/29/99
Field QC		Primary	Field Duplicate	
Soil Description	sand	sand	sand	sand
NAPL Description	sheen	sheen	sheen	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	420	650	80
acenaphthene	20	260	450	60
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	10 J	130	210	30
benzo(a)anthracene	20 U	80	120	20
benzo(a)pyrene	20 U	30	50	20 U
benzo(b)fluoranthene	20 U	40	60	20 U
benzo(g,h,i)perylene	20 U	10 J	20	20 U
benzo(k)fluoranthene	20 U	30	40	20 U
carbazole	20 UJ	70 J	100 J	20 J
chrysene	20 U	70	110	20
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	10 J	180	260	40
fluoranthene	20	300	480	80
fluorene	20	210	260	50
indeno(1,2,3-cd)pyrene	20 U	10 J	20	20 U
naphthalene	20	1200	1900	190
pentachlorophenol	50 U	60 U	60 U	60 U
phenanthrene	50	620	980	150
pyrene	20	220	440	60
Total HPAH (U=1/2)	120	800	1350	240
Total LPAH (U=1/2)	140	2850	4460	510
Total PAH (U=1/2)	260	3650	5810	810
LPAH/HPAH (U=1/2)	1.2	3.6	3.3	2.4
Naphthalene/Total PAH (U=1/2)	0.07	0.33	0.33	0.23
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	630	6000	6500	490
C10-C11	55	1700	1800	130
C12-C13	53	820	900	64
C14-C15	130	980	1100	82
C16-C17	160	900	980	79
C18-C19	90	620	670	53
C20-C21	69	460	500	43
C22-C23	35	240	260	21
C24-C25	9.4	97	100	5.9
C27-C28	14	130	140	12
C29-C30	5	57	63	
C31-C32				
C33-C34				
C35-C36				
C37-C39				

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-028	SB-028	SB-028	SB-028
Quadrant	C2	C2	C2	C2
Sample ID	SB028-67.7-68	SB028-79.5-79.8	SB028-82.2-83.7	SB028-100.6-101.5
Date Sampled	9/29/99	9/29/99	9/29/99	9/29/99
Field QC				
Soil Description	sand	clay	sand	clay
NAPL Description	odor	odor	odor	sheen
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20
acenaphthene	20 U	20 U	20 U	20
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	10 J	20 U	40
fluorene	20 U	20 U	20 U	20
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20	20 U	20
pentachlorophenol	50 U	50 U	60 U	60 U
phenanthrene	20 U	20	20 U	70
pyrene	20 U	20 U	20 U	30
Total HPAH (U=1/2)	100	100	100	150
Total LPAH (U=1/2)	70	90	70	170
Total PAH (U=1/2)	170	190	170	320
LPAH/HPAH (U=1/2)	0.7	0.9	0.7	1.1
Naphthalene/Total PAH (U=1/2)	0.12	0.11	0.12	0.06
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	700 U
C10-C11	--	--	--	92
C12-C13	--	--	--	82
C14-C15	--	--	--	110
C16-C17	--	--	--	150
C18-C19	--	--	--	93
C20-C21	--	--	--	100
C22-C23	--	--	--	33
C24-C25	--	--	--	10
C27-C28	--	--	--	
C29-C30	--	--	--	
C31-C32	--	--	--	
C33-C34	--	--	--	
C35-C36	--	--	--	
C37-C39	--	--	--	

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-028	SB-028	SB-028	SB-028
Quadrant	C2	C2	C2	C2
Sample ID	SB028-113-113.2	SB028-134-134.5	SB028-141-142	SB028-153.3-153.6
Date Sampled	9/29/99	9/30/99	9/30/99	9/30/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	sheen	nothing	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	10 J	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 U	20 U	20 UJ	20 U
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	30	20 U	20 U	20 U
fluorene	10 J	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	50 UJ	60 U	60 UJ
phenanthrene	50	20 U	20 U	20 U
pyrene	20	20 U	20 U	20 U
Total HPAH (U=1/2)	130	100	100	100
Total LPAH (U=1/2)	110	70	70	70
Total PAH (U=1/2)	240	170	170	170
LPAH/HPAH (U=1/2)	0.85	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.08	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100	100 U	100 U	100 U
C10-C11	21	--	--	--
C12-C13	12	--	--	--
C14-C15	29	--	--	--
C16-C17	20	--	--	--
C18-C19	7	--	--	--
C20-C21	21	--	--	--
C22-C23		--	--	--
C24-C25		--	--	--
C27-C28		--	--	--
C29-C30		--	--	--
C31-C32		--	--	--
C33-C34		--	--	--
C35-C36		--	--	--
C37-C39		--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-030	SB-030	SB-030	SB-030
Quadrant	D3	D3	D3	D3
Sample ID	SB030-69.7-70.0	SB030-76.0-76.3	SB030-82.7-83.2	SB030-110.0-110.3
Date Sampled	8/23/99	8/23/99	8/23/99	8/23/99
Field QC				
Soil Description	sand	sand	sand	clay
NAPL Description	odor	nothing	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	390	--	--	--
Exsitu peak wavelength	402	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	--	--	20 U
acenaphthene	20 U	--	--	20 U
acenaphthylene	20 U	--	--	20 U
anthracene	20 U	--	--	20 U
benzo(a)anthracene	20 U	--	--	20 U
benzo(a)pyrene	20 U	--	--	20 U
benzo(b)fluoranthene	20 U	--	--	20 U
benzo(g,h,i)perylene	20 U	--	--	20 U
benzo(k)fluoranthene	20 U	--	--	20 U
carbazole	20 U	--	--	20 U
chrysene	20 U	--	--	20 U
dibenzo(a,h)anthracene	20 U	--	--	20 U
dibenzofuran	20 U	--	--	20 U
fluoranthene	20 U	--	--	20 U
fluorene	20 U	--	--	20 U
indeno(1,2,3-cd)pyrene	20 U	--	--	20 U
naphthalene	20 U	--	--	20 U
pentachlorophenol	60 U	--	--	60 U
phenanthrene	20 U	--	--	20 U
pyrene	20 U	--	--	20 U
Total HPAH (U=1/2)	100	--	--	100
Total LPAH (U=1/2)	70	--	--	70
Total PAH (U=1/2)	170	--	--	170
LPAH/HPAH (U=1/2)	0.7	--	--	0.7
Naphthalene/Total PAH (U=1/2)	0.12	--	--	0.12
TPH (mg/kg)				
TRPH	8	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-030	SB-030	SB-030	SB-030
Quadrant	D3	D3	D3	D3
Sample ID	SB030-121.4-122.2	SB530-121.4-122.2	SB030-127.3-127.7	SB030-137.3-137.7
Date Sampled	8/23/99	8/23/99	8/23/99	8/23/99
Field QC	Primary	Field Duplicate		
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	30 U	20 U	--	--
acenaphthene	30 U	20 U	--	--
acenaphthylene	30 U	20 U	--	--
anthracene	30 U	20 U	--	--
benzo(a)anthracene	30 U	20 U	--	--
benzo(a)pyrene	30 U	20 U	--	--
benzo(b)fluoranthene	30 U	20 U	--	--
benzo(g,h,i)perylene	30 U	20 U	--	--
benzo(k)fluoranthene	30 U	20 U	--	--
carbazole	30 U	20 U	--	--
chrysene	30 U	20 U	--	--
dibenzo(a,h)anthracene	30 U	20 U	--	--
dibenzofuran	30 U	20 U	--	--
fluoranthene	30 U	20 U	--	--
fluorene	30 U	20 U	--	--
indeno(1,2,3-cd)pyrene	30 U	20 U	--	--
naphthalene	30 U	20 U	--	--
pentachlorophenol	60 U	60 U	--	--
phenanthrene	30 U	20 U	--	--
pyrene	30 U	20 U	--	--
Total HPAH (U=1/2)	150	100	--	--
Total LPAH (U=1/2)	105	70	--	--
Total PAH (U=1/2)	255	170	--	--
LPAH/HPAH (U=1/2)	0.7	0.7	--	--
Naphthalene/Total PAH (U=1/2)	0.12	0.12	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-030	SB-030	SB-030	SB-030
Quadrant	D3	D3	D3	D3
Sample ID	SB030-143.0-143.5	SB030-152.5-152.8	SB030-166.0-166.3	SB030-174.0-174.3
Date Sampled	8/24/99	8/24/99	8/24/99	8/24/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-030	SB-030	SB-030	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB030-188.0-188.3	SB030-194.1-194.4	SB030-204.0-204.3	SB047-8.8-9.2
Date Sampled	8/24/99	8/24/99	8/24/99	10/13/99
Field QC				
Soil Description	sand	silt	sand	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	20 U
acenaphthene	--	--	--	20 U
acenaphthylene	--	--	--	20 U
anthracene	--	--	--	20 U
benzo(a)anthracene	--	--	--	20 U
benzo(a)pyrene	--	--	--	20 U
benzo(b)fluoranthene	--	--	--	20 U
benzo(g,h,i)perylene	--	--	--	20 U
benzo(k)fluoranthene	--	--	--	20 U
carbazole	--	--	--	20 UJ
chrysene	--	--	--	20 U
dibenzo(a,h)anthracene	--	--	--	20 U
dibenzofuran	--	--	--	20 U
fluoranthene	--	--	--	20 U
fluorene	--	--	--	20 U
indeno(1,2,3-cd)pyrene	--	--	--	20 U
naphthalene	--	--	--	20 U
pentachlorophenol	--	--	--	60 U
phenanthrene	--	--	--	20 U
pyrene	--	--	--	20 U
Total HPAH (U=1/2)	--	--	--	100
Total LPAH (U=1/2)	--	--	--	70
Total PAH (U=1/2)	--	--	--	170
LPAH/HPAH (U=1/2)	--	--	--	0.7
Naphthalene/Total PAH (U=1/2)	--	--	--	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-14.6-14.9	SB047-17.7-18.0	SB047-24.2-24.5	SB047-28.7-29.0
Date Sampled	10/13/99	10/13/99	10/13/99	10/13/99
Field QC				Primary
Soil Description	clay	clay	clay	sand
NAPL Description	nothing	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	--
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB547-28.7-29.0	SB047-34.5-35.0	SB547-34.5-35.0	SB047-46.4-46.9
Date Sampled	10/13/99	10/13/99	10/13/99	10/13/99
Field QC	Field Duplicate	Primary	Field Duplicate	
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	20 U	20 U	20 U
acenaphthene	--	20 U	20 U	20 U
acenaphthylene	--	20 U	20 U	20 U
anthracene	--	20 U	20 U	20 U
benzo(a)anthracene	--	20 U	20 U	20 U
benzo(a)pyrene	--	20 U	20 U	20 U
benzo(b)fluoranthene	--	20 U	20 U	20 U
benzo(g,h,i)perylene	--	20 U	20 U	20 U
benzo(k)fluoranthene	--	20 U	20 U	20 U
carbazole	--	20 UJ	20 UJ	20 UJ
chrysene	--	20 U	20 U	20 U
dibenzo(a,h)anthracene	--	20 U	20 U	20 U
dibenzofuran	--	20 U	20 U	20 U
fluoranthene	--	20 U	20 U	20 U
fluorene	--	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	--	20 U	20 U	20 U
naphthalene	--	20 U	20 U	20 U
pentachlorophenol	--	60 U	60 U	60 U
phenanthrene	--	20 U	20 U	20 U
pyrene	--	20 U	20 U	20 U
Total HPAH (U=1/2)	--	100	100	100
Total LPAH (U=1/2)	--	70	70	70
Total PAH (U=1/2)	--	170	170	170
LPAH/HPAH (U=1/2)	--	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	--	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-54.0-54.3	SB047-61.8-62.1	SB047-69.1-69.4	SB047-73.6-73.9
Date Sampled	10/13/99	10/13/99	10/13/99	10/13/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	--	20 U	--
acenaphthene	20 U	--	20 U	--
acenaphthylene	20 U	--	20 U	--
anthracene	20 U	--	20 U	--
benzo(a)anthracene	20 U	--	20 U	--
benzo(a)pyrene	20 U	--	20 U	--
benzo(b)fluoranthene	20 U	--	20 U	--
benzo(g,h,i)perylene	20 U	--	20 U	--
benzo(k)fluoranthene	20 U	--	20 U	--
carbazole	20 UJ	--	20 UJ	--
chrysene	20 U	--	20 U	--
dibenzo(a,h)anthracene	20 U	--	20 U	--
dibenzofuran	20 U	--	20 U	--
fluoranthene	20 U	--	20 U	--
fluorene	20 U	--	20 U	--
indeno(1,2,3-cd)pyrene	20 U	--	20 U	--
naphthalene	20 U	--	20 U	--
pentachlorophenol	60 U	--	60 U	--
phenanthrene	20 U	--	20 U	--
pyrene	20 U	--	20 U	--
Total HPAH (U=1/2)	100	--	100	--
Total LPAH (U=1/2)	70	--	70	--
Total PAH (U=1/2)	170	--	170	--
LPAH/HPAH (U=1/2)	0.7	--	0.7	--
Naphthalene/Total PAH (U=1/2)	0.12	--	0.12	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	90 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-82.5-82.8	SB047-86.2-86.4	SB047-97.0-97.3	SB047-103.0-103.3
Date Sampled	10/13/99	10/13/99	10/14/99	10/14/99
Field QC				
Soil Description	clay	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-113.7-114.0	SB047-129.5-130.0	SB547-129.5-130.0	SB047-134.0-134.3
Date Sampled	10/14/99	10/14/99	10/14/99	10/14/99
Field QC		Primary	Field Duplicate	
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	90 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-141.0-141.3	SB047-152.6-152.9	SB047-158.1-158.4	SB047-162.3-162.6
Date Sampled	10/14/99	10/14/99	10/14/99	10/14/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	90 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-173.0-173.3	SB047-188.0-188.5	SB547-188.0-188.5	SB047-194.0-194.3
Date Sampled	10/15/99	10/15/99	10/15/99	10/15/99
Field QC		Primary	Field Duplicate	
Soil Description	clay	sand	sand	clay
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	90 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-047	SB-047	SB-047	SB-047
Quadrant	D3	D3	D3	D3
Sample ID	SB047-198.2-198.5	SB047-204.0-204.3	SB047-238.0-238.3	SB047-244.0-245.0
Date Sampled	10/15/99	10/15/99	10/15/99	10/15/99
Field QC				
Soil Description	sand	clay	sand	sand and gravel
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	90 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-52.4-52.9	SB051-56.0-56.3	SB051-77.0-77.4	SB051-80.0-80.3
Date Sampled	9/8/99	9/8/99	9/8/99	9/8/99
Field QC				
Soil Description	sand	sand	clay	sand
NAPL Description	sheen	visible	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	608	819	329	410
Exsitu peak wavelength	402	432	402	402
PAHs (mg/kg)				
2-methylnaphthalene	20 U	60	20 U	20 U
acenaphthene	20 U	40	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	10 J	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20	20 U	20 U
fluoranthene	20 U	20	20 U	20 U
fluorene	20 U	20	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	120	20	20
pentachlorophenol	60 U	60 U	60 U	50 U
phenanthrene	10 J	50	20 U	20 U
pyrene	20 U	10 J	20 U	20 U
Total HPAH (U=1/2)	100	110	100	100
Total LPAH (U=1/2)	70	310	80	80
Total PAH (U=1/2)	170	420	180	180
LPAH/HPAH (U=1/2)	0.7	2.8	0.8	0.8
Naphthalene/Total PAH (U=1/2)	0.12	0.29	0.11	0.11
TPH (mg/kg)				
TRPH	108	296	67	33
total hydrocarbons, C10-C39	310	720	160	70 J
C10-C11	81	190	40	--
C12-C13	60	140	30	--
C14-C15	60	140	30	--
C16-C17	50	100	30	--
C18-C19	30	74	20	--
C20-C21	20	50	10	--
C22-C23	9	20		--
C24-C25		7		--
C27-C28				--
C29-C30				--
C31-C32				--
C33-C34				--
C35-C36				--
C37-C39				--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-86.9-87.2	SB051-92.0-92.5	SB051-98.0-98.4	SB051-101.7-102.2
Date Sampled	9/8/99	9/9/99	9/9/99	9/9/99
Field QC				Primary
Soil Description	sand	sand	silt	sand
NAPL Description	odor	odor	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 U	20 U
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	50 U	60 U	60 U	60 UJ
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB551-101.7-102.2	SB051-105.7-106.1	SB051-111.7-112.0	SB051-115.8-116.1
Date Sampled	9/9/99	9/9/99	9/9/99	9/9/99
Field QC	Field Duplicate			
Soil Description	sand	silt	sand	sand
NAPL Description	odor	nothing	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	--	--
acenaphthene	20 U	20 U	--	--
acenaphthylene	20 U	20 U	--	--
anthracene	20 U	20 U	--	--
benzo(a)anthracene	20 U	20 U	--	--
benzo(a)pyrene	20 U	20 U	--	--
benzo(b)fluoranthene	20 U	20 U	--	--
benzo(g,h,i)perylene	20 U	20 U	--	--
benzo(k)fluoranthene	20 U	20 U	--	--
carbazole	20 U	20 U	--	--
chrysene	20 U	20 U	--	--
dibenzo(a,h)anthracene	20 U	20 U	--	--
dibenzofuran	20 U	20 U	--	--
fluoranthene	20 U	20 U	--	--
fluorene	20 U	20 U	--	--
indeno(1,2,3-cd)pyrene	20 U	20 U	--	--
naphthalene	20 U	20 U	--	--
pentachlorophenol	60 U	60 UJ	--	--
phenanthrene	20 U	20 U	--	--
pyrene	20 U	20 U	--	--
Total HPAH (U=1/2)	100	100	--	--
Total LPAH (U=1/2)	70	70	--	--
Total PAH (U=1/2)	170	170	--	--
LPAH/HPAH (U=1/2)	0.7	0.7	--	--
Naphthalene/Total PAH (U=1/2)	0.12	0.12	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-124.3-124.6	SB051-129.0-129.3	SB051-131.8-132.1	SB051-137.9-138.2
Date Sampled	9/9/99	9/9/99	9/9/99	9/9/99
Field QC				
Soil Description	silt	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	10 J	--	20 U	--
acenaphthene	20 U	--	20 U	--
acenaphthylene	20 U	--	20 U	--
anthracene	20 U	--	20 U	--
benzo(a)anthracene	20 U	--	20 U	--
benzo(a)pyrene	20 U	--	20 U	--
benzo(b)fluoranthene	20 U	--	20 U	--
benzo(g,h,i)perylene	20 U	--	20 U	--
benzo(k)fluoranthene	20 U	--	20 U	--
carbazole	20 UJ	--	20 U	--
chrysene	20 U	--	20 U	--
dibenzo(a,h)anthracene	20 U	--	20 U	--
dibenzofuran	20 U	--	20 U	--
fluoranthene	20 U	--	20 U	--
fluorene	20 U	--	20 U	--
indeno(1,2,3-cd)pyrene	20 U	--	20 U	--
naphthalene	30	--	20 U	--
pentachlorophenol	60 U	--	60 UJ	--
phenanthrene	20	--	10 J	--
pyrene	20 U	--	20 U	--
Total HPAH (U=1/2)	100	--	100	--
Total LPAH (U=1/2)	100	--	70	--
Total PAH (U=1/2)	200	--	170	--
LPAH/HPAH (U=1/2)	1	--	0.7	--
Naphthalene/Total PAH (U=1/2)	0.15	--	0.12	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	130	100 U	120	100 U
C10-C11	30	--	20	--
C12-C13	20	--	20	--
C14-C15	30	--	30	--
C16-C17	20	--	20	--
C18-C19	10	--	20	--
C20-C21	10	--	10	--
C22-C23		--		--
C24-C25		--		--
C27-C28		--		--
C29-C30		--		--
C31-C32		--		--
C33-C34		--		--
C35-C36		--		--
C37-C39		--		--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-145.9-146.2	SB051-149.1-149.4	SB051-152.7-153.0	SB551-152.7-153.0
Date Sampled	9/9/99	9/9/99	9/13/99	9/13/99
Field QC			Primary	Field Duplicate
Soil Description	sand	sand	sand	sand
NAPL Description	odor	nothing	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-155.2-155.5	SB051-160.7-161.0	SB051-165.0-165.3	SB051-173.6-173.9
Date Sampled	9/13/99	9/13/99	9/13/99	9/13/99
Field QC				
Soil Description	silt	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-051
Quadrant	D2	D2	D2	D2
Sample ID	SB051-179.6-179.9	SB051-181.0-181.3	SB051-187.0-187.3	SB051-191.0-191.3
Date Sampled	9/13/99	9/13/99	9/13/99	9/13/99
Field QC				
Soil Description	sand	sand	silt	silt
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-051	SB-051	SB-051	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB051-196.6-196.9	SB051-201.0-201.3	SB051-205.7-206.0	SB052-2.0-2.3
Date Sampled	9/13/99	9/13/99	9/13/99	10/16/99
Field QC				
Soil Description	silt	clay	clay	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	20 U
acenaphthene	--	--	--	20 U
acenaphthylene	--	--	--	20 U
anthracene	--	--	--	20 U
benzo(a)anthracene	--	--	--	20 U
benzo(a)pyrene	--	--	--	20 U
benzo(b)fluoranthene	--	--	--	20 U
benzo(g,h,i)perylene	--	--	--	20 U
benzo(k)fluoranthene	--	--	--	20 U
carbazole	--	--	--	20 UJ
chrysene	--	--	--	20 U
dibenzo(a,h)anthracene	--	--	--	20 U
dibenzofuran	--	--	--	20 U
fluoranthene	--	--	--	20 U
fluorene	--	--	--	20 U
indeno(1,2,3-cd)pyrene	--	--	--	20 U
naphthalene	--	--	--	20 U
pentachlorophenol	--	--	--	50 U
phenanthrene	--	--	--	20 U
pyrene	--	--	--	20 U
Total HPAH (U=1/2)	--	--	--	100
Total LPAH (U=1/2)	--	--	--	70
Total PAH (U=1/2)	--	--	--	170
LPAH/HPAH (U=1/2)	--	--	--	0.7
Naphthalene/Total PAH (U=1/2)	--	--	--	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-18.7-19.0	SB052-28.7-29.0	SB052-32.0-32.5	SB552-32.0-32.5
Date Sampled	10/16/99	10/16/99	10/16/99	10/16/99
Field QC			Primary	Field Duplicate
Soil Description	clay	clay	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	90 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-42.0-42.5	SB052-52.3-52.6	SB052-61.0-61.3	SB052-69.0-69.3
Date Sampled	10/16/99	10/16/99	10/16/99	10/16/99
Field QC				
Soil Description	sand	sand	sand	clay
NAPL Description	nothing	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	30 U	20 U	20 U
acenaphthene	20 U	30 U	20 U	20 U
acenaphthylene	20 U	30 U	20 U	20 U
anthracene	20 U	30 U	20 U	20 U
benzo(a)anthracene	20 U	30 U	20 U	20 U
benzo(a)pyrene	20 U	30 U	20 U	20 U
benzo(b)fluoranthene	20 U	30 U	20 U	20 U
benzo(g,h,i)perylene	20 U	30 U	20 U	20 U
benzo(k)fluoranthene	20 U	30 U	20 U	20 U
carbazole	20 UJ	30 UJ	20 UJ	20 UJ
chrysene	20 U	30 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	30 U	20 U	20 U
dibenzofuran	20 U	30 U	20 U	20 U
fluoranthene	20 U	30 U	20 U	20 U
fluorene	20 U	30 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	30 U	20 U	20 U
naphthalene	20 U	30 U	20 U	20 U
pentachlorophenol	60 U	70 U	60 U	60 U
phenanthrene	20 U	30 U	20 U	20 U
pyrene	20 U	30 U	20 U	20 U
Total HPAH (U=1/2)	100	150	100	100
Total LPAH (U=1/2)	70	105	70	70
Total PAH (U=1/2)	170	255	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	90 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-71.5-71.8	SB052-81.0-81.3	SB052-85.7-86.0	SB052-92.3-92.7
Date Sampled	10/16/99	10/16/99	10/16/99	10/17/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	odor	odor	odor	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-100.7-101.3	SB052-106.2-106.5	SB052-118.5-119	SB552-118.5-119
Date Sampled	10/17/99	10/17/99	10/17/99	10/17/99
Field QC			Primary	Field Duplicate
Soil Description	sand	clay	sand	sand
NAPL Description	odor	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	60 U	60 U	50 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-123.0-123.6	SB052-133.9-134.2	SB052-137.7-138.2	SB052-147.3-147.6
Date Sampled	10/17/99	10/17/99	10/17/99	10/17/99
Field QC				
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	20 U	20 U
acenaphthene	20 U	20 U	20 U	20 U
acenaphthylene	20 U	20 U	20 U	20 U
anthracene	20 U	20 U	20 U	20 U
benzo(a)anthracene	20 U	20 U	20 U	20 U
benzo(a)pyrene	20 U	20 U	20 U	20 U
benzo(b)fluoranthene	20 U	20 U	20 U	20 U
benzo(g,h,i)perylene	20 U	20 U	20 U	20 U
benzo(k)fluoranthene	20 U	20 U	20 U	20 U
carbazole	20 UJ	20 UJ	20 UJ	20 UJ
chrysene	20 U	20 U	20 U	20 U
dibenzo(a,h)anthracene	20 U	20 U	20 U	20 U
dibenzofuran	20 U	20 U	20 U	20 U
fluoranthene	20 U	20 U	20 U	20 U
fluorene	20 U	20 U	20 U	20 U
indeno(1,2,3-cd)pyrene	20 U	20 U	20 U	20 U
naphthalene	20 U	20 U	20 U	20 U
pentachlorophenol	50 U	60 U	60 U	60 U
phenanthrene	20 U	20 U	20 U	20 U
pyrene	20 U	20 U	20 U	20 U
Total HPAH (U=1/2)	100	100	100	100
Total LPAH (U=1/2)	70	70	70	70
Total PAH (U=1/2)	170	170	170	170
LPAH/HPAH (U=1/2)	0.7	0.7	0.7	0.7
Naphthalene/Total PAH (U=1/2)	0.12	0.12	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-159.0-159.3	SB052-164-165	SB052-175.5-176.0	SB552-175.5-176
Date Sampled	10/17/99	10/17/99	10/18/99	10/18/99
Field QC			Primary	Field Duplicate
Soil Description	sand	sand	sand	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	20 U	20 U	--	--
acenaphthene	20 U	20 U	--	--
acenaphthylene	20 U	20 U	--	--
anthracene	20 U	20 U	--	--
benzo(a)anthracene	20 U	20 U	--	--
benzo(a)pyrene	20 U	20 U	--	--
benzo(b)fluoranthene	20 U	20 U	--	--
benzo(g,h,i)perylene	20 U	20 U	--	--
benzo(k)fluoranthene	20 U	20 U	--	--
carbazole	20 UJ	20 UJ	--	--
chrysene	20 U	20 U	--	--
dibenzo(a,h)anthracene	20 U	20 U	--	--
dibenzofuran	20 U	20 U	--	--
fluoranthene	20 U	20 U	--	--
fluorene	20 U	20 U	--	--
indeno(1,2,3-cd)pyrene	20 U	20 U	--	--
naphthalene	20 U	20 U	--	--
pentachlorophenol	60 U	50 U	--	--
phenanthrene	20 U	20 U	--	--
pyrene	20 U	20 U	--	--
Total HPAH (U=1/2)	100	100	--	--
Total LPAH (U=1/2)	70	70	--	--
Total PAH (U=1/2)	170	170	--	--
LPAH/HPAH (U=1/2)	0.7	0.7	--	--
Naphthalene/Total PAH (U=1/2)	0.12	0.12	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	90 U	90 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-188.0-188.3	SB052-191.0-191.3	SB052-195.3-195.8	SB052-204.0-205.0
Date Sampled	10/18/99	10/18/99	10/18/99	10/18/99
Field QC				
Soil Description	sand	sand	clay	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	100 U	100 U	100 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-052	SB-052
Quadrant	D2	D2	D2	D2
Sample ID	SB052-213.0-213.3	SB052-224-224.3	SB052-234.7-235.0	SB052-249.0-249.7
Date Sampled	10/18/99	10/18/99	10/19/99	10/19/99
Field QC				
Soil Description	clay	clay	clay	sand
NAPL Description	nothing	nothing	nothing	nothing
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	--	--
acenaphthene	--	--	--	--
acenaphthylene	--	--	--	--
anthracene	--	--	--	--
benzo(a)anthracene	--	--	--	--
benzo(a)pyrene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(g,h,i)perylene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
carbazole	--	--	--	--
chrysene	--	--	--	--
dibenzo(a,h)anthracene	--	--	--	--
dibenzofuran	--	--	--	--
fluoranthene	--	--	--	--
fluorene	--	--	--	--
indeno(1,2,3-cd)pyrene	--	--	--	--
naphthalene	--	--	--	--
pentachlorophenol	--	--	--	--
phenanthrene	--	--	--	--
pyrene	--	--	--	--
Total HPAH (U=1/2)	--	--	--	--
Total LPAH (U=1/2)	--	--	--	--
Total PAH (U=1/2)	--	--	--	--
LPAH/HPAH (U=1/2)	--	--	--	--
Naphthalene/Total PAH (U=1/2)	--	--	--	--
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	90 U	100 U	90 U
C10-C11	--	--	--	--
C12-C13	--	--	--	--
C14-C15	--	--	--	--
C16-C17	--	--	--	--
C18-C19	--	--	--	--
C20-C21	--	--	--	--
C22-C23	--	--	--	--
C24-C25	--	--	--	--
C27-C28	--	--	--	--
C29-C30	--	--	--	--
C31-C32	--	--	--	--
C33-C34	--	--	--	--
C35-C36	--	--	--	--
C37-C39	--	--	--	--

Table A-1
Rotosonic Boring Soil Data

Location ID	SB-052	SB-052	SB-057	SB-057
Quadrant	D2	D2	C2	C2
Sample ID	SB052-259.1-259.4	SB052-261-262	SB057-2.7-3	SB057-18-19.8
Date Sampled	10/19/99	10/19/99	10/9/99	10/9/99
Field QC				
Soil Description	sand	sand	sand and gravel	clay
NAPL Description	nothing	nothing	nothing	odor
LIF (counts/wavelength)				
Exsitu maximum intensity	--	--	--	--
Exsitu peak wavelength	--	--	--	--
PAHs (mg/kg)				
2-methylnaphthalene	--	--	20 U	20 U
acenaphthene	--	--	20 U	20 U
acenaphthylene	--	--	20 U	20 U
anthracene	--	--	20 U	20 U
benzo(a)anthracene	--	--	20 U	20 U
benzo(a)pyrene	--	--	20 U	20 U
benzo(b)fluoranthene	--	--	20 U	20 U
benzo(g,h,i)perylene	--	--	20 U	20 U
benzo(k)fluoranthene	--	--	20 U	20 U
carbazole	--	--	20 UJ	20 UJ
chrysene	--	--	20 U	20 U
dibenzo(a,h)anthracene	--	--	20 U	20 U
dibenzofuran	--	--	20 U	20 U
fluoranthene	--	--	20 U	20 U
fluorene	--	--	20 U	20 U
indeno(1,2,3-cd)pyrene	--	--	20 U	20 U
naphthalene	--	--	20 U	20 U
pentachlorophenol	--	--	170	60 U
phenanthrene	--	--	20 U	20 U
pyrene	--	--	20 U	20 U
Total HPAH (U=1/2)	--	--	100	100
Total LPAH (U=1/2)	--	--	70	70
Total PAH (U=1/2)	--	--	170	170
LPAH/HPAH (U=1/2)	--	--	0.7	0.7
Naphthalene/Total PAH (U=1/2)	--	--	0.12	0.12
TPH (mg/kg)				
TRPH	--	--	--	--
total hydrocarbons, C10-C39	100 U	90 U	2200	100 U
C10-C11	--	--		--
C12-C13	--	--		--
C14-C15	--	--	120	--
C16-C17	--	--	290	--
C18-C19	--	--	470	--
C20-C21	--	--	390	--
C22-C23	--	--	400	--
C24-C25	--	--	170	--
C27-C28	--	--	150	--
C29-C30	--	--	220	--
C31-C32	--	--		--
C33-C34	--	--		--
C35-C36	--	--		--
C37-C39	--	--		--